

# NEBULA

MONTHLY

2/6

## SCIENCE FICTION

NUMBER 40



FOR READING THAT'S DIFFERENT

# GALAXIES AT RANDOM



*Galaxy NGC  
2796 enlarged*

*Four Distant  
Galaxies, with  
NGC 2796 in  
upper left-  
hand corner*

## KENNETH JOHNS

Only five hundred years ago the Earth was the centre of the Universe, a compendium of all things, around which all else revolved—according to men of knowledge and authority.

Now we know, along with the ancients, that this is not so. We have ventured out in the re-orientation of the Earth, assigning it a place in the Solar System, which is part of a galaxy, which is part of . . . of what?

We can call this next upward step in groupings the Universe or the Cosmos; but such a title covers the whole of everything, known and unknown. It is as real as infinity, and as meaningless. We know of galaxies, we can see them in their millions, each with its ordered or disordered grouping of stars.

*Continued on inside back cover*

# NEBULA

## SCIENCE FICTION

Edited by **PETER HAMILTON**

Number **Forty**

### ALL NEW STORIES

### NO REPRINTS

#### Novel :

#### **IMBALANCE**

**William F. Temple 48**

*Earth had successfully beaten off her invaders but in the twisted depths of their alien minds still lay the need for revenge*

#### Short Stories :

#### **TO SEE OURSELVES**

**Philip E. High 3**

#### **THE STRANGERS**

**James Inglis 21**

#### **VIEWPOINT**

**T. B. Swann 33**

#### **THE COLONEL'S LAST SAFARI**

**Nigel Jackson 37**

#### Regular Features :

#### **Look Here**

**Peter Hamilton 2**

#### **Seven Days To Nowhere**

**John Newman 97**

#### **Something To Read**

**Kenneth Slater 102**

#### **Bob Madle's American Letter**

**Robert A. Madle 104**

#### **Fanorama**

**Walter Willis 106**

#### **Scientifilm Previews**

**Forrest J. Ackerman 108**

#### **Guided Missives**

**The Readers 110**

#### **Front Cover by Eddie Jones**

#### **Back Cover by Arthur Thomson**

**Black and White illustrations by Arthur Thomson, John Greengrass and Eddie Jones**

NEBULA Science-Fiction is published monthly by **PETER HAMILTON**, 169 Crownpoint Road, Glasgow, S.E., Scotland. This edition is dated May, 1959.  
Editorial Address : 101 Greenhead Street, Glasgow, S.E.

Subscription rates in Great Britain and the British Commonwealth : 12 issues, 30/- stg. ; in the U.S.A. and Canada, 12 issues, \$5.00. All rates post free. Sole distribution rights for Australia and New Zealand have been granted to Messrs. Gordon & Gotch (Australasia), Ltd.

Application for second-class mail privileges is pending at New York, N.Y.  
No responsibility can be accepted for loss or damage of unsolicited mss. or artwork, and while these are invited, adequate return postage should always be enclosed.

All characters and events in these stories are entirely fictitious, any resemblance to persons living or dead is purely coincidental.

Made and printed by Cahill & Co. Ltd. in the Republic of Ireland at Parkgate Printing Works, Kingsbridge, Dublin.

# *Look Here*

This issue of NEBULA is two months late and has cost you sixpence more than its predecessors. Although this may seem to be a rather obvious statement (to our regular readers at any rate) I feel that it is only fair to explain what it is that has caused this somewhat startling departure from our erstwhile policy.

In spite of the fact that many of the stories we print concern themselves with outer space, the production side of our magazine is unfortunately rooted firmly in the soil of good old Terra, with the result that, like it or not, we are at the mercy of any shifting of the general strata that may occur.

In recent years everything has been costing more. From sputniks to sporrans, people have had to part with more cash to purchase exactly the same article, and after a bitter struggle to avoid it, NEBULA must now follow this trend.

We did have a choice of course, and the two months' gap since the publication of our last issue, represents the time it took us to weigh all the possibilities and come to a definite decision in favour of an increase in price. Another course of action we could have taken would have been to relinquish our leadership in payments to authors—for six consecutive years NEBULA has paid more to its contributors than any other British science fiction magazine—but we realised that if we were to pay less for our stories we would very soon find ourselves printing sub-standard material. Any alternative was better than this!

Now that the decision is made (and I feel sure on consideration that all our readers will agree that it is the right one) we are relying on everyone who buys this magazine regularly to continue to give us that wonderful support we have grown to expect from past experience. NEBULA will once again be coming out every month as from the current issue, and will continue to give you the same high standard and unique diversity of fact, fiction and comment which has earned it a reputation for readability and sheer enjoyment which now spans five Continents.

*Peter Hamilton*

# To See Ourselves

*What was it on this quiet and tranquil globe which  
lay in wait to kill suddenly quickly and without trace?*

*Illustrations by Arthur Thomson*

Blunt fingers drumming on a pack, up, down, da di da, militarily, da di da di da. Why doesn't he stop? A wrinkled forehead under a dive helmet, heavy shoulders bowed, face withdrawn and secret in the light gleam. Squatting, cross-legged, bowed like a beggar, woodenly, drumming his fingers on a pack.

No world beyond this—nothing. Only five men squatting in a steel tube, five men facing five other men who line the opposite wall. All in dive helmets, all bowed, all squatting, all cross-legged, packs between their knees, but only Hobson drumming with his fingers, da di da di da.

It had been like this in war, lots of wars, men squatting, waiting for action, crouched in the half-light, waiting to drop. Hobson first—one—two—three—out—down—no!

Almost silence here, whisper of machines, sigh of stabilisers, whine of thrusts. Where were they going? Up? Down? Standing still?

A man lights a cigarette and exhales hissing, another coughs and, at the end of the tube, a voice says: "A few minutes now."

How does he know? He is guessing, everyone is guessing, it has become a gigantic riddle, all of it. A riddle and a challenge. Volunteer, take a chance, be a hero—or some black print on a Survey memorial. But you had listened and, for some reason, you went crazy, you had volunteered. You pitted your brains, your courage and your self-respect against an enigma. They warned you, they told you what had happened to the others, but something inside you grew hard and cold. You were afraid, but something inside you kept you tight-mouthed and unyielding. You kept saying: "I'll take a chance, I've had training. I've jumped before. I'll go." What was it inside you that made you say you'd go against your better judgment? Did you believe that your skill could triumph where greater skill than yours had failed? Did you believe you had some higher protection? Or was it because you knew that you could never live with yourself again if you refused? Perhaps it was the challenge of the thing. You knew you would lie awake nights, wondering, wrestling with yourself, wondering why *you* hadn't gone to find out what *was* down there.

This was the second attempt at survey and the four ships were still there, still functioning, still beaming up information automatically without human intervention or supervision. Radiation count, atmosphere, humidity, temperature, even micro-biotic analyses of soil and atmosphere. Readings, plus, plus, plus, suitable for Terran life, nothing harmful, everything perfect. Instruments in four sleek scouts, going clickety-click in unison, saying: "Nothing harmful, everything perfect." Four sleek scouts with their instruments functioning, but all their crews dead. One hundred and fifty-seven men, all dead—why? Challenge! Someone has to go down to find out—any volunteers? God, you *must* be crazy.

A blue light, blinking on and off, get ready. Get ready to jump, check your stabiliser, strap on your pack.

"Number one—eight seconds."

Number one—Hobson. Hobson standing upright, face wooden, expressionless, raising a cocky thumb, grinning suddenly and stepping into the drop-chute.

No sound, only an orange light blinks once, like an eye, and the door slides open once more.

"Alright, Hobson?" Mackay's voice from the control blister.

"Alright so far, rate of drop normal, compensator functioning perfectly."

"Keep talking, Hobson, don't stop."

A light at the far end of the drop tube, square, shimmering, full of swirling colour but slowly clearing until—a black figure, floating downwards towards a white sea of cloud. Hobson, still hunched, knees drawn up—bad that, sign of nerves—round helmet, black box of gravity compensator strapped to back, grey bulk of pack strapped to chest—still drumming his fingers on it?

Someone makes adjustments and you seem to be following Hobson down through a white sea of cloud.

"Keep talking, Hobson."

"Alright, alright." Irritably. "What the hell can I talk about; there's nothing but damn cloud."

"Read your instruments, recite poetry, any damn thing, but keep talking."

"Sure, sure. Still going through cloud, wet, clammy say, when is this thing supposed to hit you?"

"Somewhere below a thousand feet; keep talking."

"Dials read fifteen hundred; think I'll stay right here where it's safe." A laugh, nothing in it, hollow with irony and fatalism. It takes guts to try to laugh when you're dropping to your death. Never liked Hobson much, sullen, harsh voiced, meanly aggressive, but guts God, yes, he'd got guts.

He would give a lot more information to the men in the control blister without saying another word. Like all the droppers, he had micro-instruments grafted surgically into his body. Instruments which registered his pulse rate, respiration, chemical changes in his blood, his perspiration and in the accelerated, or decelerated activity of his glands. If he died, they'd find out why. A hell of a lot of help that was to Hobson or to any who followed him. A reading here, a fluctuation there, a needle crawling round a dial, forming a pattern, making a picture. "Look, he died of this, or that, too bad we didn't find out sooner!"

"Fourteen hundred now, below cloud. Looking down on wooded country, broken by grassland, stretching away. Mountains in the distance, funny kind of mountains with pink cliffs—a lot of rivers that look like they wander just any place. Say, how do you fix a compass point on an alien planet when you can't see the sun? Don't answer that, no time, just something to say, I guess ."

Hobson, floating down, compensator unit purring softly on his back. Soon it would be your turn and it wasn't going to be pleasant, you were number ten, the last. You have, perhaps, to watch nine men die before it was your turn. You have to watch the screen, hear

the voices, see men drop. You want to bite your nails, twist something in your fingers. Your throat is raw from smoking and your tongue sandy and rough but you light one cigarette after another. You want to talk but your voice would betray you, a voice that would stutter, or be absurdly high or, perhaps, soundless.

"Twelve hundred."

God, has he fallen that far?

"Still feeling alright, Hobson?"

"Feeling fine, could be a practice drop."

You look at him in the screen, body still hunched, face still wooden, red skinned, sullen and, below, another face, the face of a planet. A face bland with seeming-innocence, cliff, forest, hill, almost gentle. Yeah, gentle, like the face of a tiger in repose, soft, cuddly—until it snarls.

"Ten hundred, still okay."

You watch the figure stiffen slightly and fumble at its hip. They've told him there is no dangerous life down there but he isn't taking chances. Almost you are dropping with him, reasoning as he reasons, feeling as he feels. Nothing down there, huh? What they mean is, they haven't *seen* anything. It could be invisible, couldn't it? Get out the Geeson pistol just in case.

You pull yourself together suddenly. It will be your turn soon enough and you'll crack up fast if you start sweating it out with every man who goes down. You've got to figure out some sort of concentration point to keep your mind away from what's going on outside. They say that when a man is going to die his whole life passes before him in those final moments. How could anyone know that? Anyone come back to tell? Nevertheless it's an idea, you could do it now, concentrate, keep your mind on it. It could save a lot of trouble, save you reviewing it in a hell of a hurry later. Joke, laugh at yourself, almost it sounds witty, you must remember it—if you live.

"Nine hundred, feeling a bit uneasy, guess it's the strain."

"What do you mean by uneasy?" Mackay's voice holds an underlying hint of alarm. "You were keyed up before, what's different?"

"Nothing I can put my finger on—no—no, that's wrong. It's like something is creeping up behind me all the time, I feel like a scared kid in the dark."

"Yes, yes, go on, Hobson."

"No." Flatly and stubbornly. "Not about that, it's giving me the heebies, making it worse." A slight pause, then: "What's going on down there?"



Movement in the tube, men crowding forward, staring at the screen, seeing Hobson's finger pointing.

"What's going on? Look, you've got to pull me up, do you hear?" Voice rising to a scream. "Pull me, for God's sake, pull me up."

Mackay's voice, taut and urgent. "Beam crew, pull that man out."

"My hand, what's happening to my hands? Pull me up—my hands—" The voice trailing into a gurgling sound, mewling noises, then silence.

The door sliding open hissing at the far end of the tube and Mackay standing there with the light behind him, catching the silver insignia of collar and sleeve, touching the short, greying hair with the golden suggestion of youth. A squat powerful man, bowed a little now, perhaps with the burden of responsibility. Although his face is in shadow, you know it is craggy, lined, unsmiling, with deep-set blue-grey eyes which always seem to be gazing into the unthinkable distances of space.

"He's dead." Flatly and bleakly and heavy with fatigue. "Hobson is dead." A pause. "Anyone who wants to back out, can. It won't be mentioned in the records."

Five men shuffling uneasily towards the door, sheepishly, not looking at those who remain, or even at each other. Scurrying towards the oblong of light, passing into it, and out of sight, like shadows.

Now is your chance, you damned fool, join them, get out while it's safe, don't stand there stupidly like an ape, *move*—too late.

"Alright, boys, you'll probably have to wait a little time for further investigation." He means dissection, doesn't he? "We'll give you fair warning."

"What did he die of, Mackay?" Legrand, a big man, long jawed, slow of movement and speech. "Tell us, man, what killed him?"

Mackay hesitates, clears his throat, then, abruptly. "He died of fright, Legrand, he died of fright."

Lockstone, stepping into the drop-chute like a man jumping off a building, sweat dewed, showing his teeth in a grimace which is neither smile nor snarl but featureless like a skull.

The orange light blinks again but this time you're not going to think about it, not going to feel, not going to do anything. One dead, five run away and one gone, that leaves three, two in front of you.



This will be your last chance to think at all. Ask yourself, what circumstances led you into this half-lit tube, identify yourself

Your name is Peterson, Gregory Peterson, Stellar Survey Service—no, start at the beginning. Just how did you get into Survey? How long ago was it? How many light years away? There was the expensive suite with it's attached laboratories, the decorous but near-opulent consulting rooms and in them—you. You, Gregory S. Peterson, Neuro-Plasticist with a string of letters and degrees after your name, very impressive. It wasn't so impressive now with seven dead women on your conscience. Could you ever forget?

Five years ago, five years, you were only twenty eight and almost at the peak of your profession. There were always women waiting in your consulting rooms, who else would want to be beautiful? You could make them beautiful, you could re-shape their faces, tint their skins, give their lips the dewy freshness of early youth. This, in itself, was not unique, any plastic surgeon could do the same but the neural technique you yourself had devised—yes, yes, that really was something. It made them look as if they had been born angels and grown to goddesses. It gave the sculptured faces vitality, an animation, an inner warmth which no amount of skilled surgery could ever achieve.

Life had been soft, cultured, easy and the future comforting and assured. What then were you doing in the drop tube of a Survey scout?

"Ten hundred, feeling fine, nothing to report."

"Keep talking, Lockstone, and don't leave it too late, yell for us to pull you out as soon as you see anything."

"Right, Skipper." Almost nonchalant, almost cheerful. God, Lockstone has guts, too. You hope when it's your turn. No, you're not going to listen and you're not going to watch. What were you thinking? Oh, yes, the future seemed——

A single long ragged scream, battering suddenly at the silence and trailing despairingly away—Lockstone!

You feel sweat crawl from under your dive helmet and run down your face. You want to run, whimper, or beat your hands on the walls like a terrified child. Why didn't you get out when you had the chance, *why*?

After a time, you realise that someone is standing in front of you, not looking at you, just standing. Standing and talking, not to anyone in particular, just making a statement. "I'm next, when I go, I go fast, none of this regulation drop speed, none of this waiting for it to come up and get me, seen two go that way already. Me, I'm going compensator-free until I hit eight hundred then I'll bash the switch over hard. By the time it pulls me up to regulation drop-speed, I'll be only fifty or sixty feet from touch-down." He laughs harshly. "If anything is coming up to get me, it's going to get my feet right in its face from fifteen hundred."

"Legrand—ready?"

"Sure, I'm ready."

You watch him step through the door, the orange light blinks—silence.

In the screen Legrand goes down, turning slowly, and beneath, the dim ground grows larger, spreads, takes the shape of hill and forest, rushes upwards.

Mackay: "Turn up that compensator or you won't pull up in time." A shout, rasping with urgency. "Legrand, you damned idiot, turn it up, do you hear? *Turn it up.*"

The face of the planet rushes suddenly into the screen, then it cuts abruptly and goes black. Legrand is dead, perhaps he was dead before he hit the ground, you'll never know.

"You two in the drop tube, you'll have to wait. If you're not there when I call back that's your good fortune. I'm going to contact

Courtney in the mother-ship, let *him* take the responsibility, let *him* find out what it feels like to be a murderer." A pause, then, bitterly. "He'll probably like it if it gets results."

Mackay is all broken up inside, you can hear it in his voice. You realise suddenly that in his harsh abrupt way he loves his men and that every time one dies something inside him dies too.

You're broken up too, in a different way, your nerves ragged and jangling like fouled wires in an electrical circuit. You squat there, sweating but inclined to shiver, lighting cigarette after cigarette and grinding them out before they are half smoked. Why don't you get out? No one will think any the worse of you, after all, Mackay is practically holding the door open for you to go. All you have to do is rise casually and stroll out. You might be going anywhere, only it just happens that you don't come back—simple. Consider, no one will ever blame you and, after all, you only have *yourself* to face—that's the real trouble, isn't it? You couldn't live with yourself knowing that you ran out because you were afraid. You *are* afraid, terribly afraid, but if you gave way, your self respect would be gone forever. Self respect! Hardly an asset when you're dead.

The other man squats at the far end of the tube, rigid as a stone idol and, outwardly, as lifeless. Why didn't *he* go? You feel resentful about it. If he'd gone, you, too, might have followed.

Perhaps they'll pack up the whole project, write it off and pick some other system and some other planet. With Courtney running things? That's a hope. If Courtney wants to survey a planet, he surveys it, no matter how many guys get killed in the process. It's not like the old days when McIntyre was space chief, he *cared* about his men. Courtney cares about his reputation for efficiency, his rating with the Survey Commission and his personal advancement. It's alright for him, he doesn't have to do the job, all he has to do is to sit in his comfortable suite up there in the mother ship and give the orders. The mother ship, a floating city, practically a planet in its own right, with everything laid on. Artificial gravity, play rooms, swimming pools, shows and five thousand men and women who live in it—yes, yes, it's alright for him.

You don't want to think about the mother ship because if you do you'll think about Estelle in the computer section. Estelle who isn't pretty but gentle, kind-eyed, warm—you'd have asked Estelle to marry you if—if you didn't have seven women on your conscience—— You're back to it, aren't you? Back to the reason why you're here in the drop tube of a Survey scout.

Seven women who came to your consulting rooms five years ago and countless light years away. Seven women whose names you forget and whom you had sent away looking like goddesses. Yes, they had had more than beauty, they had the something you could give them only through the neural techniques. You gave them warmth, an inner light, sympathy, sweetness of expression and yet, eight months later, they died, one after another. They hadn't died prettily or calmly but brutally, harshly and alone. The first had jumped from an eighty storey building, the second had flung herself in front of a monacar, a third had coughed up her insides in a bubbling pink froth from drinking metal cleaner, a fourth—no, that's enough

Seven, and they all died because of you. You, Peterson, who made them beautiful and imposed on that beauty a subtlety they never possessed. You gave them compassion and they were not compassionate. You gave them sympathy when inwardly they were harder than cash registers. They were selfish, petulant, erotic, hard and you imposed tenderness, warmth, serenity. Seven beautiful masks with nothing behind those masks to maintain or nourish the inferred subtleties.

Seven women who were cruel, arrogant, erotic and self-centred. When they were angry, their beautiful eyes hardened, the lovely mouths drew down at the corners, thinned. The clear fair brows corrugated into frequent frowns and, after a time, because of the neural techniques you had employed to make their beauty animate, the state of their minds affected their beauty. The mouths stayed thin, down drawn, savage, the brows corrugated—seven women who became distorted, sour mouthed carnival masks which you couldn't change back.

There had been successes of course. Lucille who had come to you longing to be an actress. She'd had a skin like dry leather, the face of a melancholy horse and nothing to recommend her save a ready smile. She had left after completion of the treatment and gained her ambition. You had followed her progress and she'd gone from success to success with every passing month, but she gained not only success, her beauty increased also. Why? Because there was something within her to maintain and nourish that beauty. Inside, she *was* compassionate, *was* warm, *was* serene and the women who had killed themselves were *not*. You had given them malleability of feature to express emotion and they had become gargoyles, hideous caricatures, their outward appearance imposed upon them by their innermost emotions.

You should have seen it, Peterson, you should have seen it.

But you were so clever with your new techniques, so anxious to get on in the world that you never gave it a thought.

Seven were too many, you threw in your practice, your suite, your consulting rooms. You picked up your past, your rosy future, screwed them up in a ball and tossed them away.

Survey were hungry for determined men who could pass the I.Q. tests. You passed the tests, entered Survey and clutched the stars

"Wake up, Greg."

You jump. "Eh? What?—sorry." It is the other man who sat woodenly at the far end of the tube. "Good God, Wilkie. I never realised it was you, what the devil are you doing here?"

"Same as you, waiting to drop."

"I thought you liked life, Mark Wilkie, why didn't you go with the rest?"

He lights a cigarette with a hand that shakes a little. "I've been sitting in a daze, thinking about that for a long time, I guess—it's because I'm yellow." He twists the cigarette nervously in his fingers. "I've always been like that, always known it, ever since I was a kid. When the gang climbed cliffs, took risks, I was the kid who always backed down." He laughs shortly and bitterly. "Chicken Mark they called me, the white boy with the yellow streak." He laughs again. "If it doesn't stop now it will never stop. It sounds sort of crazy but I think I'd rather go out this way than back down again."

You scowl at him, feeling somehow that your own secret fears are reflected in his words, only he's got the moral courage to admit it and you haven't. "Any ideas for survival?" you ask, harshly.

"Yes." His voice is surprisingly calm. "I'm going to play it ostrich. It may sound crazy but it's worth a try."

"Ostrich?"

"Yeah, head in the sand, you know." He leans forward. "Look, those guys died of fright, that's been confirmed. They died of fright because they saw something coming up at them. Ever heard of Medusa whose face turned men to stone? Maybe there's something down there like that, perhaps if you didn't look at it, kept your eyes closed as soon as you saw it coming . . ." His voice trails away.

"Attention, attention." Courtney, clipped and petulant. "Number nine—sixteen seconds, repeat, sixteen seconds."

Wilkie rises, a little unsteadily but without hesitation and holds out his hand. "Wish me luck."

You grip and your eyes feel suddenly gritty and idiotically blurred. "The very best, Mark, the very best."

You do not see the orange light blink but you know he is gone. Mark Wilkie, the only true and intimate friend you have made since joining Survey and now .

"Fifteen hundred and I'm going to play it ostrich." He tells Mackay about it.

"Good boy, you've an idea there, you do that."

There is a click and Courtney's voice cuts in. "I expressly forbid such an experiment, Wilkie goes as an observer and his eyes remain open."

Mackay continues to talk to Wilkie. "Ignore that, Wilkie, you close your eyes when you want to."

"Mackay, who the devil do you think you are?"

"You go to hell, Courtney. Alright, Wilkie?"

"Mackay—Mackay." Courtney's voice is venomous now. "You're relieved of duty."

"No." Mackay's voice is a detached growl. "I didn't want to do this, Courtney, but I had to. When we lost Raines on Zeus, I fed subsidiary a lead from your control room into the ship's memory banks, everything you have said and every order you have given has been recorded."

Courtney doesn't answer, there is no answer. If anything had gone wrong, or the Survey Commission had asked pointed questions about the number of deaths, he would have held Mackay responsible. Now, if it ever comes to an enquiry, those memory banks can be played back. He can't get at them without breaking the seal and to break the seal would mean taking half the ship to pieces, that seal is hooked to about twenty different circuits.

There is the click of a closed contact but you can imagine Courtney's heavy jowled face suddenly greasy and colourless. You can't find sympathy for him, in fourteen years McIntyre lost only three men. Courtney has tossed away sixteen in the course of as many months.

"Alright, Wilkie?"

"Yeah, yeah, ten hundred, coming out of cloud."

"Keep talking, boy, when you close your eyes I'll talk you down. If you're drifting near trees or anything I'll let you know."

"Nine hundred." Voice a little shrill and strained. "I'm closing my eyes now."

"What did you see?" Mackay, tense and anxious.

"I—I closed them before I got it properly but everything below

started to change, became sort of fluid and writhed upwards like smoke." A slight pause, then anxiously. "Mackay, can you see anything in the screen?"

"Nothing." Mackay's voice is not only convincing, it inspires confidence. "As far as we are concerned, nothing has changed."

"Does that mean anything? Could it be some sort of illusion?"

"The labs are working on that angle now, Wilkie."

You muse and sweat a little. An illusion? Comforting, or is it? Somehow it fails to give you confidence, this illusion has killed nearly two hundred men.

"You're down to eight hundred, Wilkie."

"Yes, yes." Voice a little shaky but still determined.

God, the kids called him chicken Mark and he's got more guts in his little finger than a dozen so-called heroes.

"Keep talking, Wilkie."

"Yes, yes, I want to; I don't feel so damned alone. How far have I got to go now?"

"Seven fifty, everything below is the same."

"It doesn't feel the same, it's like something was circling round me, something I can't hear but is almost palpable."

"There's nothing there, you have my word on that. There's nothing visible, nothing on the detector screens, you're just floating down alone."

"Then it is an illusion?"

"Check, check, Wilkie, we're getting somewhere at last. You started the boys working on a new angle altogether; they're checking solar energy and natural radioactive deposits now. They suggest that these two factors, harmless individually, might, below a certain level, affect certain areas of the brain."

"And cause death?"

"Now I didn't say that, Wilkie. The men who went before you died of fright; you have survived with your eyes closed. My guess is that the area of the brain affected somehow involves the vision and induces illusions so real that those men, not knowing it was purely subjective, died of fright."

"I can follow that; what do you want me to do?"

"For the moment just bear it in mind; keep your eyes closed; keep talking; you're down to five hundred."

"Five hundred." Wilkie's voice sounds remote and faintly tremulous. You know what he is thinking. The beam crew cannot operate the tractor device below eight hundred without hauling up anything loose on the ground as well. At five hundred, it wouldn't



have to be loose, the beam would wrench up everything down to ten feet within eighty square yards of contact.

Suddenly you are furiously angry; you have forgotten your fear and find yourself filled with self-loathing. Wilkie is your friend, a real friend; he was afraid yet you let him take it alone.

You punch the voco-switch savagely. "Mackay, open that damn drop-chute, I'm going down; tell Wilkie I'm coming."

The first ten seconds are the worst, dropping and not knowing whether the compensator is going to function. Ten seconds with the wind rushing past and a rigid tension in your stomach. Then the sudden welcome purr of the motor, the lift and tug in the shoulder harness and the sudden exhalation of relief.

You look up but you do not seem to drop, rather it seems as if the scout floats upwards and away from you. You see the great metal glistening belly of the thing, like the belly of a gigantic fish and then you look down to the sea of cloud below.

"You alright, Peterson?"

"Eh? Oh, sure. How's Wilkie?"

"Morale climbed way up when I told him you were following."

"Good—I'm going to play his ostrich technique."

The clouds slowly rise up to you; they look smooth, milky, glistening and shot with rainbows. Almost you expect to splash when you strike, but they close about you drably, shutting out the sunlight damply like shrouds.

"Keep talking, Peterson."

You talk; you're not quite sure what about, balderdash probably, because the cloud layer was thin and you are now below it. You're watching that alien terrain coming up to meet you and it *is* alien. It looked reasonably normal in the screen, but now

A range of mountains rises some ten miles away like handfuls of huge pink sugar lumps tossed one upon another. The vegetation is streaked with reds and yellows as if some crazy artist had suddenly wearied of his task and slapped his colours, uncaring, on the canvas. The rivers and streams seem to cross and recross like silver wires thrown aside by some careless electro-tech.

"Nine hundred, Peterson, do you hear me—? Nine hundred."

"Yeah, yeah, I hear you."

"Well, stop reciting verse and pay attention. Wilkie is down; have you got that? He's sitting on something which he thinks is grass and intends to stay there until you join him. He says he feels an almost palpable sense of danger but thinks he can take it until you are down too." A slight pause. "See anything yet?"

"No—yes." You dry up suddenly as if a hand had closed round your throat cutting off the air. One second you are staring at the strange alien terrain with its pink sugar lump mountains, the next It happens so quickly there is no time to grasp it. It is like an abrupt change of scene in a video show.

Below is ice, blue green ice stretching to the horizon and reaching upwards in fantastic jagged pinnacles. Your feet swing a bare twenty feet above the nearest and it's pointed like a spear and razor sharp. You are going to drop right on to it, you are going to be impaled like a piece of meat on a skewer. You are going to hang there with jagged ice through your guts and if you don't die at once, then you'll freeze. "How high am I?" Your voice is a croak.

"Eight hundred; what's up?"

You tell him, sweating.

"It's an illusion, Peterson, there's nothing there and nothing has changed."

An illusion. You cling to the idea, frantically. There's nothing there, it's something in your mind. It was something in Hobson's mind, wasn't it? Something in the minds of the men in those ships down there and it killed them.

It *feels* cold, despite what Mackay says. Maybe you're drifting between those razor sharp points now—no, it's an illusion, do you hear? An illusion. Courtney is watching too, laughing at you, thinks you're yellow, a dropper—going down with his eyes shut. He despises you, well, damn his hide, you'll show him.

You open your eyes—and close them, fast. You know it is an illusion now but, God, how real. Smoke swirls evilly and blackly about and, four feet beneath you, lava rolls sluggish and incandescent.

"Mackay." You try to make it sound casual. "I'm falling slap into a volcano."

"Peterson." Mackay's voice is very firm. "Nothing has changed, you're down to four hundred and, in the screen, the terrain is exactly as before."

"When I looked just now, my feet were nearly in a sea of lava."

"Well, they're not, rest assured. Keep those eyes closed and I'll talk you down the last few feet."

Illusion obviously, but so incredibly real that when you open your eyes you cannot convince yourself that it is an illusion. There is ice. There is fire. There may be one or the other, but there can't be both. Ice——? You were afraid. Fire, you were thinking



about Courtney—hate. There is a connection somewhere; the answer is practically in the palm of your hand but it escapes you, try again. Ice—fear. You always dreaded cold, you feared impalement. You hate Courtney—fire. Some sort of telepathic life form, symbolism? No, you're off-beam somewhere.

"Get ready, Peterson, ten feet."

The compensator cuts out automatically as your feet touch the ground. A comp-landing is easier than a drop from a two foot wall but it feels, with your eyes shut, as if you'd jumped from a ten-storey building. Your orientation is gone to pieces and you stagger a few uncertain steps and fall heavily on your side.

"Alright? Peterson, are you alright?"

"Yeah, I think so—yes."

"Wilkie is only four hundred feet away. With your eyes shut you'll have to crawl but I'll talk you over to him."

With Mackay directing you, you finally make it and after you have talked a while you sit quiet, trying to figure out what to do. You can hear the whisper of the wind, little insect noises, but otherwise the silence is complete.

You think of what you've learned, turning your mind over and

over for an answer. Then you wonder if Estelle is watching you from the mother ship, and if she thinks you look a couple of damned idiots sitting back to back with your eyes shut. You wonder if she has read the note you left telling her all about the past and asking her, if you get back, whether despite the past . . . Without thinking, you open your eyes—and stare and stare.

“Wilkie.”

“Yeah.”

“Concentrate, Wilkie, on something or someone you’re fond of, your girl friend, your mother, don’t ask me why, just do it.”

“Right.”

“Now open your eyes.”

A slight pause, then : “Say, it’s not so bad, beautiful in a strange sort of way.”

“Alright, close them again, I’ve got to think.” Fear—your fear—ice. Hate—fire. Love—beauty. There’s a tie-up somewhere, there’s much more to it than that. Somehow your thoughts go back to the past and realisation strikes you with almost physical force. Seven women who—my God, it’s so damned obvious.

“Mackay, are you still listening? If you are, have you confirmed that theory about the radiations affecting the brain?”

“Not fully confirmed it, call it a sixty per cent. proof—why?”

“I think I’ve got the answer. Listen, I’ll have to give this slowly and underlined while it’s clear in my mind. In the first place, there’s nothing down here, *nothing*, no telepathic life form, no invisible monsters. Now this is the part which is really important, the radiations have somehow effected a tie-up between the areas of the brain governing both sight and emotion, have you got that? *The emotion acts on the vision so that the surroundings appear to change. One might almost say that a man sees his own emotion reflected outwardly.* Men died because they were afraid, fear distorted their vision to such an extent that they appeared to see their innermost fear apparently take shape and it stopped their hearts. The greater the fear, the greater the appearance of reality and there is not a man living who is not afraid of something. If it was disease, they saw it manifest, if it were monsters, they were there.”

“My God, Peterson, it makes sense; how did you get it so quickly?”

“It’s a long story, Mackay, too long to tell now. Wilkie and I are going to try walking for half a mile with our eyes open, then we’ll come up.”

After a few yards, Wilkie says, softly. "You were right, Greg, but it goes deeper than that, I've been watching."

"How do you mean?"

He hesitates: "Well, you were right about the emotional side when a strong emotion is predominant, but when it's not—we catch a glimpse of ourselves. Notice an occasional distortion in our surroundings, with here and there a suggestion of decay? I guess there's a hell of a lot of bad even in the best of us, Greg. I think, when a strong emotion is not predominant, our characters, our inner selves also affect our vision and appear to be reflected outwardly."

"Meaning, that if we had a stinker down here, a human louse, his surroundings would appear pretty horrible to him?"

"So horrible that I think they would drive him insane. A man can, by a process of thought, justify within himself the most inhuman acts but he couldn't alter the apparent outward reflection down here." He laughs shortly. "We could begin a race of saints down here if he knew how to begin, a man would have to act and think like a reasonable being to survive." He laughs again. "It would appear that the philosophers had something, hell, or heaven, is a state of mind."

"Wilkie, Peterson, half a mile, come up now." A pause which is too long, then. "We've confirmed that the radiations do affect the brain, an over-sensitivity is caused in certain areas which may affect the subconscious mind." Another pause. "Peterson, this may be permanent. Whatever applies down there, as far as you are concerned, applies up here, on the Mother ship, Earth, anywhere. Sorry I had to put it so bluntly but it's the only way."

You stare up at the pale thin cigar which is the scout, wondering, and then the clouds drift once more and it is gone. So is a life you once knew and, almost, it is a transition from one aspect of life to another. A life which you control, *must* control, or perish. Violent uncontrolled emotion, such as hatred, will immediately react on that part of your brain controlling vision and, to you, your surroundings will appear to change instantly and—horribly.

Mackay greets us in the reception lock and wrings our hands. "Thank God you're alive. You'll get the Space Medal for this and a bonus from every scientific institute in existence."

He looks younger than he seemed to, younger and more kindly and, in some strange inexplicable way, handsome.

Wilkie whispers suddenly: "My God what's that?"

Courtney, you know it is Courtney, although it doesn't look

human. You're seeing—what? You're seeing Courtney as he really is, not the face he shows to the world, but the real face inside. This thing cuts two ways, you're seeing other people's inner selves. This is something akin to, but not quite, telepathy. Instead of reading their minds, you see the shape of their inner selves. It is as if you had performed your neural technique on everyone and their faces are hideous or handsome according to what they are really like deep down. That is why Mackay looked strangely changed, inside he is kindly, gentle, considerate.

"We've got to keep quiet about this," whispers Wilkie.

You nod quickly, this would be dangerous if it were known. God, you could rule the world, you could separate friend from enemy and form a band of devoted followers. You could speak and watch the impact of your words upon the listeners. Seeing another's emotion would enable you to play on it and use it. Only—only, it cuts both ways. To rule the world you would have to be cruel, you would have to abandon principles and ideals to brutality and ruthlessness and that change in your character would appear to be reflected outwardly. You would live in such a hell of darkness and distortion that sooner or later you would lose your sanity, or, should it be—your soul?

"Greg."

You recognise the voice. "Estelle!" You don't remember her being quite so beautiful. She was a dark slender girl with a dusting of freckles and now— You shudder suddenly; she might have been like one of those seven women to your strange eyes, like Courtney, a twisted inhuman monster.

She must have come down from the mother ship to greet you and you can see her answer. "Yes, Greg, yes."

Everything is suddenly beautiful, even the dull regulation grey paint of the reception lock has a pearly softness and the lights shine with rainbows. Heaven is a state of mind—so is hell, you mustn't forget that. If you and Wilkie get together, choose the right people, use the knowledge as it should be used. Then, in time, the human race can eliminate war, cruelty, want, suffering, hatred. It can become a race of Gods in its own heaven.

Estelle throws her arms round your neck and kisses you. Yes, you and Wilkie must talk it over—but later—it can wait a few hours while you get married.

PHILIP E. HIGH

# The Strangers

*Mars had held him prisoner for many lonely days and nights and now, at last, had come his chance of rescue*

*Illustrations by John J. Greengrass*

Earth was rising slowly in the east, a tiny pearl, pendant upon the breast of Dawn. It shone with a brightness that was good to see, a brightness indicative of its proximity.

The time of opposition had come again.

Grayson could not repress a tremor of excitement, and his gloved hands trembled slightly as he steered the little jeep over the fine infinity of sand. Five years it had been, three of them alone, on Mars ! Further delay was impossible, inconceivable. They could not have forgotten, they could not leave him here for ever. . . .

He forced his mind away from such speculation, knowing the dark abyss into which it might lead. He was a man who had always been passionately afraid of disappointment, a man who would always believe the worst, though hoping for the best. But even hope was dangerous in the setting in which he found himself. In the interests of his mental well-being, Grayson tucked the longing and anticipation into a corner of his mind.

As the shadows lifted, and the landscape took on a greater detail, he could make out his destination, waiting for him a short way ahead. The soothing hum of the engine reached a higher note as he increased the speed. Over the desert they sped, the red dust flying under the rolling wheels, hanging a moment in the blaze of sunrise before descending for another eternity in a garment of glinting powder.

The Place stretched ruggedly before him, the ruins coming at him, encircling the tiny jeep like hungry, lonely arms. Grayson brought the vehicle to a halt. Jumping down lightly onto the desert, he adjusted his eye shield against the strengthening solar glare. Already, Earth had dissolved into the spreading light of its progenitor, along with the lesser morning stars. He was relieved.

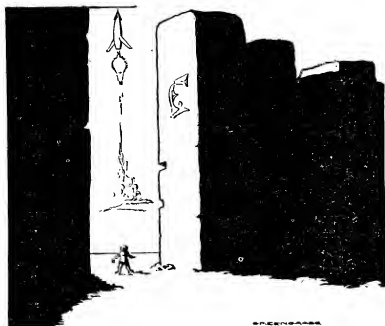
He began to move into the shadows of the Place, a tiny figure amidst that vastness, even clad in his atmosphere suit, which rendered him grotesque as well as larger than life. For all its bulk, however, it was exceedingly light. As he was not living in a vacuum, many of the exquisitely complicated appliances of a space suit were not required. It kept him warm, and supplemented the meagre remnants of oxygen which were in truth the dying gasps of Mars.

His heart was chilled as he entered the dread antiquity of the Place. It was now a familiar sensation, one that never would be dulled. For here was mystery. Mystery matured with time, pregnant with a thousand secrets that Grayson hoped, one day, to uncover. There were several Places throughout Mars, great circles of fractured stone, undergoing the gradual decay of time and season. They were older than anything known on Earth, these spiritual ancestors of Stonehenge, and yet they were more revealing, for they had been erected by a supremely civilised people. But, unlike the wonders of the Earth, it was not their antiquity alone which afforded them their compelling fascination. It was the knowledge that other ones had dwelt therein, that other voices had laughed in the sunshine and cried out against the coming cold.

The Place had become the only reason for Grayson's existence, the sole sustainer of his sanity. Faithfully, each morning, he would leave the dismal safety of the Base and make his way across two kilometres of desert to pursue his study. It was surprising how much he had already learned, frightening how real the races of Mars still seemed. Although Grayson's highly specialised training had contained nothing in the way of archæology, a wide interest and a fertile imagination had been advantageous.

The Martians, he had learned, had been a mature, deeply con-





templative people, advanced equally in physical science and in philosophy. At the moment, he stood within the ruins of what must have been an enormous building, which he had deduced to be a combined astronomical observatory and religious temple. Both its situation and style conveyed the impression of scientific usefulness and spiritual symbolism. This then, had been one of the alien customs of the Martians; they had studied the stars and worshipped their God at the same time, perhaps in the one act.

Alien? Grayson would not have used that definition. After all, the stars were the same, and the God.

Physically, the Martians must have been humanoid, though exceedingly tall and slender if the ruined tiers and entrance ways spoke truthfully.

Grayson often wondered whether the ravages of time had been foreseen, or postponed, in time for exodus. He hoped, perhaps irrationally, that they had.

As the Sun's glare was cut off by the dark, grey walls around him, Grayson released his eye shield, his face becoming visible in the transparency of his helmet. It was a face that had been handsome,

still was in a worn sort of way. The hair, a fairish brown, was flecked with grey that should not have been there. Tiny red weals marked the cheeks, scars that he would carry all his life to remind him that Mars had its furies as well as its fascinations.

The dead dust could be stirred into life occasionally, when the infrequent winds would moan over the land, stirring sand and memories. It was ridiculous that a man should have been face to face, literally, with the Martian elements, and survived. But Grayson had been lucky. That, however, was a long time ago, before he had become the only man on Mars.

Twelve young men travelling through space. Travelling through dark arenas with only chemical and spiritual fire to guide them on their way. Mars. Growing larger and redder every day. Mars. Glaring its sullen challenge at the man-made meteor which had pierced its venerable atmosphere and come down to sting the silent sands. Mars. The quietest of haters, the guardian of the dead.

The passage of time. The building of the dome, the discovery of the Places, the exultant communications with home. That had been Firstyear, the great time. It had been marred only by the death of one of the most popular members of the colonising party.

Tom Ericson.

Grayson could remember the pale, skeleton face, the rasping breath, the pleading eyes.

"Dave. Do something for me when you get back. Look up my folks, tell them that I was happy. So I am. I regret nothing."

Grayson had believed that. He knew that Ericson had come to Mars because he had been compelled to, by something much stronger than science or the state. Anything else, to him, would have been unthinkable. He *had* to come to Mars. The others had shared Ericson's dedication, to some extent. Otherwise there would never have been a Mars project. The germ which Ericson had carried with him to Mars died with him, that much had been ascertained. But his passing had exerted a greater influence than any man would have believed possible.

Who was responsible for the disaster, Grayson had never found out. But he suspected it had been Wilson Forrest, the radio engineer. He had worked closely with Ericson, who had been in charge of Earth communications. Grayson, as Shift Organiser, had not come into frequent contact with the dying man, and although one of his best friends, had not allowed his death to weigh too

heavily upon him. But Forrest had been one of those people who brood upon events, whether these events be accidental or not. In the last days, it had been easy to see that he was not fully in control of his senses. But the innocuous position in which he was employed, and the familiar backwardness of his character had lulled their senses of caution.

Of course, Grayson could not be sure, not ever have proof, that Forrest *had* been the one who opened the airlock. But he could still recall the way the other had spoken in the days preceding the disaster. The dark eyes, shining with a blazing madness, the talk of doom, of fate, of the losing battle which they fought with Mars. The death of his colleague had so shocked his senses that something from his past, his childhood perhaps, had crept in to take control of his mind. He believed that they were being punished for coming to Mars. He prophesied that no one among them would ever return to Earth.

The fact that he had been right, with the still possible exception of Grayson himself, pointed to his being the agent of disaster. That fateful night, as the colonists had prepared for rest, after submitting Grayson their reports on the day's duties, Forrest had been unnaturally silent. Grayson and his colleagues had failed to understand the implications of this. They had failed to see that his silence was one of satisfaction and fulfilment.

Grayson had retired to his little office with the reports, saving his life by doing so. He had returned, opened the door which connected the office with the main quarters in time to feel the angry wind of Mars blowing in his face. Whoever had opened the door had opened it at an opportune time, had opened it to let in a desert storm. Sand had poured into the living quarters, taking the place of vital air, which rushed out to fill the near vacuum of Mars. Grayson had stood but for a second in that dreadfulness, choking as oxygen was forced from his lungs. Then he had plunged back into his office, and through the hatch which led to the Survival Spares apartment. Just in time did he don an atmosphere suit, feeling all around him the pressure of escaping air.

The rest had been a feverish nightmare. Slamming shut the airlock door, opening up every valve of precious air. Clearing away the debris of ruined instruments and drifts of sand, he had found his colleagues—*dead*.

For almost three years he had pottered with a radio he had known was stilled for ever, he had eaten his tasteless algaic meals,

and he had hoped. He had hoped with everything he had. Hoped and waited. He had searched the sky for falling fire, for the coming of release, for the rocket from Earth. Two years ago, at the last opposition, it should have come, with a fresh, star-eyed complement and a warm sanctuary inside, where he could rest in glorious relief until the airlock door opened and the blue, fleecy sky of Earth invited him outside.

But it had not come.

He had expended his bitter wrath under the uncaring Martian sky. He had screamed at the constellations and raged at the Earth pearl so far away. But time calmed him, and the routine had begun again.

Needless to say, he had changed during these years. He had been prepared for shrieking release, but something that was new in him had prevented its coming. He could not have said that he was glad.

With his notebook resting upon his knee, Grayson knelt by the eastern wall of the temple, running his fingers along the exquisite tracery of sculptured stone. There was something meaningful about the elaborate symbolism of these ancient Martian edifices that he hoped to isolate one of these days. Until then, he would continue with his notes and sketches, studying them when the ghosts of loneliness preyed upon him.

In the shadowed debris which lay under the rugged wall, a trace of colour stared up at him as he moved. Stretching his arm, he encountered a soft resilience. There was real soil here, damp to the touch, and, something else.

Carefully, he snapped the rubberlike shoots, feeling strangely guilty as he robbed Mars of its flowers. So pathetically few were those bright, tragic things, living precariously here and there in the shelter of the hardy lichens.

He was just rising to his feet when the heat took hold of him. It came in great, palpitating waves of warmth, like the breath of a cosmic dragon. Instinctively, he looked upwards, and time and sense flew away from him as he watched the rocket descend.

Overcoming the numbness which had captured his mind and body, Grayson ran, almost soared in the light gravity, until the ruins were behind him, quite forgotten.

Out there in the desert, only a few kilometres away, the rocket

landed. Like ripples radiating on the disturbed surface of a lake, the vibrations thudded outwards. Grayson's heart quivered in response.

Then he was running again. Running wild and mad towards the waiting jeep. It was his subconscious rather than his conscious mind which supervised the activation of the controls and the journey of the jeep over unfriendly distances of sand.

As he neared the Base, he could see the spurious storm of sand which marked the place of the rocket's descent. It was obvious that the crew had been informed of the position of the Base. He had not been forgotten, after all . . . !

At last the jeep was stilled and he was out on the sand, weakly approaching the thing of power that had come to Mars, the shining thing of hope and splendour and release which had come to take him back to Earth.

He gaped as the giant descended from the ivory tower that was the Earth rocket. Then he remembered that people *had* looked that big, that he had always been considered small among his race; this had been one of the reasons why he had been picked for Mars Project.

The giant had not noticed him yet, either that or else the vistas around him proved too overwhelming to leave room in his attention for another human being. But Grayson waited, feeling curiously detached as he sensed a personal epoch drawing to a close. He knew he must be presenting a peculiar figure, ragged and alone; a dusty, impossible creature, bearing a bunch of flowers in its hand.

"Yes, I'm the only one that's left. Professor David C. Grayson, Martian. What took you so long?" Grayson had composed that introduction almost three years before. It sounded strange, actually voicing it. The other's reply was an even stranger sensation. The words seemed like peals of thunder, loud, penetrating.

"That comes as something of a shock, Professor Grayson. We had no idea. . . . But as to your question, no man can rightly answer that. You see, your expedition was a joint one, pooled from all the Great Powers. Developments back on Earth have destroyed that nice balance. There have also been economic considerations . . . "

The Captain, a massive Australian, was smiling. A smile in which bitterness and sympathy co-existed. He seemed to Grayson to fill the tiny cabin in which they sat, and the latter noticed the uneasi-



ness which surrounded him. No wonder, being cooped up in a coffin like this for months on end! After the wide open spaces of Mars, Grayson marvelled that *he* had ever endured the trip out from Earth.

"Here, have some coffee." He handed Grayson a flask. The stuff tasted good. Grayson doubted that it was real, actual coffee, but his palate could not tell the difference.

The two men sat in silence for a few moments, as men do when they have too much to talk about and do not know where to begin. It was Grayson who first voiced his thoughts.

"Then you have had war, after all?" He was aware of an old, inner pain. A pain he had not felt in five, long years, a pain he had not felt since his coming to Mars.

The giant shrugged.

"We haven't had any real fireworks—yet. Just a mess of small conflicts. Revolts, prestige wars and the like. Ballistics have been neglected, by common consent. They are just too powerful to achieve anything. That's why space travel has received such a kick in the pants. It's also why we had to wait so long in coming for you.

You must know, of course, that space travel has been only a sideline in rocket development."

"And is the present expedition a joint one? Have you had another settlement?"

The Captain looked at the other for a moment, curiously.

"There has been a lull," he admitted. "But this is not really an *expedition*. Rescue party would be more like it. You have public opinion to thank for that. The governments' hands were forced."

*Rescue party.* The concept was rather indigestible. The rocket had come, not to relieve him, and of course his dead colleagues, but merely to remove them. The colonisation of Mars, it appeared, was over.

The Captain took advantage of his temporary silence to ply him with questions about Mars, about the disaster, about how he had survived, alone. By the time the ordeal was over, Grayson was feeling strained and tense. Just a temporary sensation, he supposed, a result of his excitement and the mental strain of talking to another human being after three, lonely years.

But he knew that he could take no more. He must *have* peace, privacy. Trying to keep his voice as level as possible, he asked the Captain if he could be alone for a little while, to rest.

"Of course, of course." The other nearly fell over himself with concern. "You can stay in my cabin, I'll see that you are not disturbed. I must take a party of men to investigate these ruins you were talking about, take some snapshots and prepare for the return. You just take it easy."

Then he was gone, and Grayson was infinitely relieved. He could not help being amazed at his own reactions to this long-dreamed of event. But he could not deny that human company was vaguely intolerable. Force of habit, he thought to himself. Just depends on what you're used to. .

He rose, and moved about the tiny room. Coming across a shaving mirror, he paused before it, looking, wondering.

His face was smooth and clean, only the thin cheeks and the tiny red scars marking him as different from other men. *Different.*

He was fingering the fine network of sand-scars when he heard voices outside the locked door.

"Can't we even *see* him? Just for a minute?"

A gruff voice grunted in the negative. "He must rest. The Cap'n says he is not to be disturbed."

"But he isn't resting. I heard him walking the floor he's

bound to be weary for company      five years on Mars. Three years alone. *Alone!* God the things he must know; the things he could tell us ! ”

“ *I’m telling you, no one’s to see him.* ”

Suddenly, Grayson covered his ears. His face was a mask of anger. *They* wanted to see him! He had waited five years and now *they* were getting impatient!

*This is David Grayson, the man from Mars. Sorry we had not time to fetch him before but here he is at last. Isn’t he pretty?*

*David Grayson uses Snowdazzle toothpaste. Swears there’s nothing like it on Mars.*

*Get YOUR kids a David Grayson outfit this Christmas.*

It all came back to him. The grey flood of memory. For the first time in five years, Grayson remembered what had brought him to Mars. It hadn’t only been a rocket engine, or a thirst for adventure. He remembered the disappointments and the harsh realities, the monotonously materialistic round. The headlines, the hydrogen bombs. And noise. Noise.

An environment moulds a man, subtly, just as a man moulds his environment. That’s the way it is. Mars and Grayson had done pretty well together. They had fought one another to a standstill and forged an eternal bond. That was the price of survival on Mars. That was why he had survived, or at any rate why he had remained sane. He had *adapted*. Mars had accepted his challenge, and Grayson had unknowingly accepted Mars.

Perhaps in another two years, if Earth got herself sorted out again in time for the next opposition, things would be different. He wouldn’t mind a small, exclusive company. Successors to his dead comrades, out there nourishing the Martian soil. Perhaps he could adapt to the old ways again, slowly and by degrees. But not all at once. Not a straight plunge into Noise. No, not yet, not yet.

He waited for the Captain’s return. Time was passing and the afternoon was wearing on. He knew that the rocket would be blasting off by nightfall—it had not come equipped for a lengthy stay. It was this as much as anything which Grayson could not stomach. After the pain and the triumph, after the struggles and the sufferings, mankind was turning its back on destiny. He knew, of course, that this was only a temporary setback. Other rockets would come again to Mars, when man wanted adventure and truth for its own sake. But, for Grayson, the thought of leaving Mars naked of life was impossible. Too many men had died to stop now. There was something important in the still ruins out there that he was deter-



mined to unravel. Something vital, a legacy from an ancient and splendid race. He would carry on his studies, keeping a record of his research, biding his time until the world was ready. Technically, he was insane. He knew that. But he had lost all interest in the accepted standards. On Mars, a man was different. There was no one to force beliefs into him or to build up prejudices.

At last the Captain came back. He sat, quite stunned, as Grayson told him of his decision.

Grayson pleaded, quietly. "Please do not interfere. I have work to do research. I must go back. There are plenty of supplies down there. Enough for twelve men." Saying this, he remembered his compatriots, particularly Ericson, and his dying request. He was sure that the Norwegian wouldn't have minded Grayson including his fellows in this.

"I would like you to tell the Earth of the victory we have had. Tell them that my friends died happily, doing what they wanted to do. That's what I am doing now, Captain, what I want to do. That is not always a very easy thing, and it's the first time in my life that I can really be sure I am doing the right thing."

The Australian still stared in unbelief. His face betrayed the conflict of emotions in his mind. Humanitarian instincts, loyalty to duty, and a strange, new appreciation of the ultimate in man. He said :

"You are a free man, I cannot dictate to you. But we will be back, I promise you that. We will be back, I hope with a cargo of colonists. You can have any luxuries you want, that you can find aboard this craft. We have plenty in the way of medical supplies, tobacco and all the rest of it. But I ask you to change your mind."

Grayson smiled and shook his head. He looked younger, happier.

"Thank you, Captain, for all you have done. I hope you are on the next rocket, when it comes." It was a simple statement, a Martian farewell.

He waited until nightfall. The Captain supervised the unloading of the supplies and their transportation to the Base. Grayson knew that the men were at a loss to understand. But his bitterness towards them had worn off. It had not been their fault, the delay. They had risked their lives to come for him. They were the very best that Earth possessed. But Grayson was a Martian. . . .

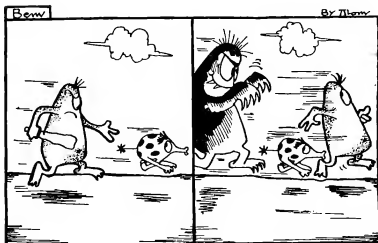
He was outside. The rocket stood still, gigantic in the night, dreaming of its thundering escape. To Grayson, at that moment,

standing between the twin eternities of stars and sand, it represented all that was great in towering humanity. He had not lost faith in man, but in order to serve him, he must remain on Mars. He remembered the flowers he had picked earlier that day, of how he had left them in the rocket; his message to Earth. The message that there were other ways and forms of life than the ones they understood. He stood still as the rocket rose. He watched as it soared upwards, gathering the thunders of velocity. It hung like a Christmas decoration in the dark, and disappeared among the stars.

Grayson felt something like a scream rise and die within his throat. Then he smiled. It was alright, the strangers had gone. He could get on with his work and familiar routine at last.

After one last, long look at the burning sky, Grayson returned happy and alone, to the sand and the shadows and the phantom silences of Mars.

**JAMES INGLIS**



## Viewpoint

*She had been caught in the atomic holocaust and disfigured, terribly. Could her outlook on the normal world survive this grim experience?*

"Come in, Mr. Raymond," said the attendant. "Your wife is ready for you."

He walked into the waiting room. It was empty except for a woman with her back turned. She wore a red woollen skirt, a blue cashmere sweater with long sleeves, and suede gloves. Amber hair fell loosely around her neck. He did not have to see her face to know that she was Jill: He had sent her the clothes himself, and the amber hair was unmistakable. For an instant he hoped that she was unchanged.

"Jill," he cried, starting towards her.

She turned, and he almost stopped. Her face looked like weathered green brass. But I musn't let her know how I feel, he thought. I must pretend that she hasn't changed.

"Jill," he said, and embraced her. She did not respond. He tried to kiss her mouth, but she turned away and his lips brushed the leather-hard surface of her cheek. She shuddered, and he could guess her shame and how she must hate for him to undergo the horror of touching her. Before the explosion, he had often said that her skin was like the petal of a flower. Pretty in the fresh, unassuming way of a sweet pea or a nasturtium, she had valued his praise and tried to please him with her clothes and hair.

"Hello, John," she said. "It's been a long time, hasn't it?" She had been visiting her mother in Knoxville when the atomic explosion at Oak Ridge levelled every town and city within a radius of fifty miles. The Army promptly threw barriers around the contaminated area, and the survivors—there were several thousand—were permitted to leave only after they had undergone a thorough decontamination. But it was too late for most of them. They had already changed like Jill; become mutants with coarse green skin. Some chose to remain in the area, which came to be called the Reservation, and rebuild the blasted cities; and some left only to find themselves pitied freaks in a world no longer familiar. Jill had lain ill for five months in a makeshift hospital which the survivors had set up just outside Knoxville. When she was well, the Army notified John to meet her at the decontamination centre on the edge of the Reservation.

"Shall we go?" he said. "The car's outside."

"Go? Oh, I suppose so. Let's have something to eat first."

For the benefit of the outgoers, the Army had provided a quiet little lunch-room staffed by mutants.

John chose a table in the corner and gave orders to a waitress with skin more discoloured than Jill's.

The waitress nodded to Jill. "Just out?"

"Yes," Jill smiled, without constraint. "Have you been out long?"

"Two weeks. I went to my sister's in Atlanta but couldn't take it. Her kids called me the snake lady. Had to come back here. See my own kind now and then. But you're not as bad as I am. Watch the kids, though."

"Thank you. I will."

The waitress left and Jill was silent.

"I wondered if you'd like to take a trip," John said. "Or maybe you'd rather go right to work. Heaven knows, we've missed you at the office." They were owners of a little poetry-publishing house in Florida which they called the John and Jill Press.

"A trip?" she said vacantly. "No. No, I think work will suit me better." She slipped off her gloves and laid a hand idly on the table.

She's trying to appear normal, John thought. I must help all I can. He took her hand. The tapering fingers, which had once arranged roses and written verses for Christmas cards, felt like claws. She withdrew the hand.

"Listen, Jill," he said in an urgent whisper. "I know what you've been through. But you must understand something: To me you haven't changed. You're my wife and I love you." He winced at the transparency of his lie. Love her? Yes. But she *had* changed, and he could never look at her again without an inward shudder.

She forced a smile but kept her hands below the table. Through the meal he made repeated efforts to talk to her. She answered in monosyllables and avoided using his name. The meal was an ordeal.

"Good-bye, honey," the waitress called as they left the restaurant. "Remember, you can always come back."

Outside, John took Jill's arm and led her to the parking lot. He had brought her car instead of his, the car she had loved and named Ariel because it was swift and bright. A box of Chocolate Mint Julips, her favourite candy, lay on the front seat.

"Ariel welcomes you," he smiled, handing her the candy. He felt better now that they were out of the restaurant and in the sunlight. But when he held the door open for her, she hesitated.

"Did you forget something?" he asked.

"I'm afraid I've changed my mind," she said.

"What do you mean?"

"I'm not going home with you."

He looked at her, stupefied.

"I'm going back there," she explained.

"The restaurant?"

"No. All the way."

"But, Jill," he cried, seizing her shoulders. "You haven't given it a chance. People won't stare at you!"

"You think *that's* it?" she laughed. "You think I'm afraid of being stared at? Of having you cringe when you touch me?"

"Aren't you?"

"Oh, no, John. It's just the opposite. You're the one who's changed. You and everyone else—outside the Reservation."

"I don't understand."

"Oh, I don't mean you've changed physically. But the way I see you is different. And things are what they look to us, aren't they? My skin is hard and green now. But to me—and my friends back there—it seems right to have hard, green skin. *Your* skin looks leprous to us. You look like a tall white slug!"

"A slug?" he gasped.

"I didn't mean to hurt you," she said. "But you must see it's

impossible for us to live together. I could never stand to have you touch me."

She turned away from him and patted Ariel's fender. "I guess Ariel's the only one who's stayed the same."

"There's nothing I can say?" John asked.

"Yes. Good-bye."

He watched her walk back towards the Reservation.

T. B. SWANN

## NEBULA . . .

Astronomers tell us that a nebula is the place where stars are born. Here, they say, is where the new luminary takes shape and first shines its message of new life out across the void. In a way, our NEBULA is like that too. In almost every issue we publish stories by the bright new stars, who will very soon be at the zenith of the science fiction writing profession.

In this current number, for instance, we are proud to introduce two young and very promising new authors in Nigel Jackson and Thomas Burnett Swann. Both are at university—studying for an M.A. and a Ph.D. respectively—but science fiction still plays a major part in their lives. Mr. Jackson, as many of our readers will probably have noticed, has long been a regular contributor to the letter columns of the magazine, while Mr. Swann is one of the many new friends we have made since NEBULA was put on general sale in America.

No mention of the newcomers in this number would be complete without reference to another young man who made his very first appearance in NEBULA only a few months ago, and comes back again by popular request in record time. James Inglis works in a mysterious factory which, as far as we can ascertain, deals in a highly technical manner with everything from seaweed to ice cream. We can only state, with some relief, that none of this apparent confusion has yet found its way into his stories.

The extremely international quality of our magazine is illustrated yet again by these three new "discoveries". Mr. Jackson hails from Melbourne in Australia, while Mr. Swann is from Florida, U.S.A. Mr. Inglis lives (and works!) comparatively close to us in Girvan, Scotland.

The Editor of NEBULA invites readers in all these countries—as well as in the many others in which the magazine is read—to encourage these three promising newcomers by sending him your comments on this month's issue.

# The Colonel's Last Safari

*Such was his reputation throughout the Galaxy that it seemed impossible that he could yet add to it still further*

*Illustrations by John J. Greengrass*

"By gad, sir," wheezed Colonel Fitzshuffly angrily, "if you are meaning to imply that I might hit the wrong beast, allow me to inform you, sir, that on Dottel IV in the last Hugfa shoot . . ."

"No, no," interposed Petrel with a soothing movement of his hands, "you misunderstand me, Colonel. I was merely saying that . . ."

"I should jolly well hope I was misunderstanding you, Mr. Petrel," stated the Colonel, clasping and unclasping the knob of an outside and fake Arcturan shooting stick which rested on his knee. He stared icily. "Only a bounder, sir, a cad of the lowest class, could suggest that I might not hit the animal at which I aimed. Why, Mr. Petrel, I have a reputation which spans a hundred worlds and of which I am justly proud."

Yes, thought Petrel (it must be admitted for not the first time), yes, you old gumboot, you have—a reputation of being the biggest blowiest bore in space. Aloud he said placatingly from the spongy depths of his pink upholstered pilot's chair:

"Of course, Colonel Fitzshuffly, of course. The galaxy knows of your reputation and how it has been gained. But what I meant to say was that here on Nagg, hunters are only permitted to fire at certain specified animals, and that consequently we must be sure you do not hit a forbidden species."

"Certain specified animals       ?" spluttered Fitzshuffly in astonishment. His live Ffethwiggian monocle forgot itself sufficiently to turn back into a Ffethwiggian and dropped out of the Colonel's face on a long silver thread. Hastily it scrambled back and became a monocle once more, changing from white to transparency as it endeavoured to refocus on Petrel.

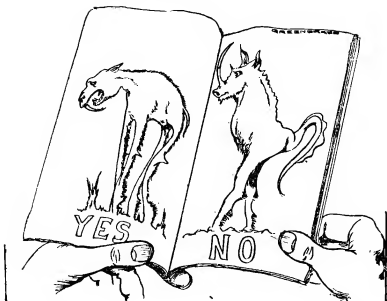
Petrel, comfortable in the pink petals of his chair, watched the embarrassed Fitzshuffly with a quiet patience and slowly sipped a bulb of peppermint wine.

"Yes," he continued in the manner of some erudite interstellar sociologist, "the Naggs, Colonel Fitzshuffly, consider themselves a civilised people, and so certain of their native animals are granted waunau, a form of non-participating citizenship, and are naturally protected from extra-Naggian game hunters. The punishment for killing such animals is known only to Naggs, but it is apparently unpleasant enough to have ensured that in five hundred years only two Naggs have broken the law. Thus it is that in order to prevent its clients from making a fatal mistake, Interstellar Safaris have issued this booklet in which are listed pictures of every life form on Nagg. The pictures are reproduced in relative scale from biggest to smallest, and underneath are the words YES or NO which are self-explanatory. Frequent reference to this booklet renders one able almost at a glance to determine whether or not one may fire at any observed species. So I should be grateful if you would take this copy, Colonel, and would read it as soon as possible, because I anticipate planetfall in about thirty hours' time."

It was the longest speech he had ever made, and its oratorical elegance was derived not from any innate genius for speaking, but by mere repeated practice. For Petrel, as the reader may have divined, was a cynical, sophisticated and experienced interstellar hunting guide.

However, the Colonel was far from satisfied. He pulled his





flopping body into a more erect position and fixed his large pale eyes on Petrel.

"Do you mean to say," he asked with a tone of outraged disbelief, "that the confounded natives of this planet actually have the nerve to direct better and more civilised peoples to fire only at the animals they care to name?"

"I do," said Petrel.

"Then by Jove, I shall certainly ignore their ignoble rumblings, sir, and stand up for the principles of freedom and liberty for which my forebears fought throughout the Galaxy. To intimate, Mr. Petrel, that I, Colonel William Boxwood Durham Fitzshuffly, am to take orders from a fifth rate bunch of worthless stinking natives, is intolerable. I shall shoot at what I please, and damn the Naggs!"

He raised himself upright and irately stumped out of the cabin, snorting unintelligibly and gripping his shooting stick with fierce and indignant fury. The slam of his cabin door on the other side of the corridor was followed by a ship-shaking thud as he collapsed on his bed, and the click of his desk as he reached for a bulb of his favourite Albuqy cocktail.

Petrel's face remained unmoved and he continued to sip his wine and watch control panels with disinterested and vacant eyes.

For a long time the only sound aboard ship was the muted grumbling of the Pearson Drive.

At length the Colonel reappeared from his lair and supported himself in the doorway, his face several shades redder than before.

"Look here, Mr. Petrel," he exclaimed irefully, "what's all this nonsense about 'all extra-Naggians found on the planet may be fired at if desired'?" He pointed at some offending passage in the booklet and glared.

Mechanically Petrel explained.

"The Naggs are a rather unsociable race, Colonel," he began. "And so, under threat of revoking certain essential trading privileges which my company had been assigned, they insisted, as an acid joke, that that statement be inserted in our booklet, where it would be seen by all visiting hunters."

The Colonel gave a violent explosion of fury and shook his shooting stick in the air.

"That's very funny indeed, Mr. Petrel," he bellowed. "But what the devil's going to happen to me if some confounded Eleusian or Bindaboo hunter takes that seriously and has a pot at me? Of course I know that Eleusians and Bindaboos can never hit what they aim at, but accidents can happen. What if I get killed? That's much the sort of joke I might have expected from such a cranky planet. Pchah!"

"Now easy, Colonel," soothed Petrel, "there's no chance at all of that happening. Under the special Galactic Act for Nagg, any such killing is regarded as murder. I assure you that you are quite safe."

There was a moment's silence.

"You're quite sure . . ." the Colonel ventured.

"Positive. It's never happened and never will."

"Hmmm." Somewhat mollified, the Colonel retired once more to his sparkling Albuqy '54, to swot "The Animals of Nagg" and to unpack his Hadron .45 rifle. Petrel remained in his pink flowers drinking peppermint wine. The little automatic ship sped nearer and nearer to the mighty bulk that was Falla, Nagg's burning white sun. The Naggs remained blissfully unaware of the existence of Fitzshuffly. There was peace and contentment in the stars.

Petrel made planetfall on a wide sweeping plain of pale blue grass, amongst tall purple trees and near a small native settlement. Colonel Fitzshuffly took his first look at Nagg through the large idron-glass window in the pilot cabin.

"By Jove, it's magnificent!" he bumbled happily, drinking in the unusual colours and glorying in the sight of a sun after two weeks in Petrel's ship. "This is just the sort of planet that ought to be used for hunting, you know. One would almost think that that was why God made it, eh, Mr. Petrel?"

"Yes indeed," said Petrel, who was half way into his slick yellow tropic suit. The Colonel continued to shower forth a stream of praises for Nagg. He was as excited as a small child and almost dancing like an alcoholic bull, even though he had as yet perceived no sign of animal life. "What splendid golden peaks over on the horizon!" he enthused. "I wonder if there are any mountain deer like those emails on Sorrento V." A thought struck him, and he turned to Petrel. "I say, Mr. Petrel, where are the jolly old Naggs? I'd have thought they'd be out in a mob to see any spaceship which came down. But I'm dashed if I can see a thing. Not invisible, are they?" He looked quite worried.

Petrel laughed.

"No, Colonel, it's not as bad as that. The Naggs are a queer lot. They show no interest at all in anything extra-Naggian—in fact they sometimes almost seem bored. As a matter of fact I'm hiking out to the nearest settlement now. It's hidden behind that patch of wood over there behind those big orange sun flowers. I'm going out to show the chief my credentials. They're a very suspicious race, the Naggs. Doesn't do to get on their wrong side. Look at Galaxy Hunting. They tried a bit of galactic chicanery and I've never seen anyone out of a planet so quickly in all my life. Lord knows what the Naggs said or did, but it was mighty effective."

He strapped on a water pan and medical kit, and prepared to leave. The Colonel's early exuberance had died down. He looked rather quiet.

"Jolly lot of stinking bounders, these Naggs must be," he declared. "I was thinking of accompanying you, Mr. Petrel; but by George, I shall not filthy myself by approaching such rude and unco-operative people as these natives appear to be. You had better go alone, Mr. Petrel, and I shall complete my study of your company's excellent little booklet on Naggian game."

Thank God, thought Petrel, and left.

Next day was bright and sunny again, and so was Colonel Fitzshuffly. Holding his rifle in one hand and his booklet in the other, he strode up and down the chequered floor, exclaiming unrestrainedly as he waited for Petrel to fill their packs.

"By George!" he bumbled happily. "What a marvellous day

for shooting! Should bag everything today. Beat my record of Foffrat III, if I'm lucky. Can't wait to see some of these animals you've listed in this dashed good little booklet, Mr. Petrel. By Jove, this elantaur creature is astounding. If I don't get one this morning, I shall be most disappointed. And this gan thing, with the big green ears. I shall have to bag one of them. Gad, this planet's the best I've seen! What a poor show to think that a dirty stinking lot of fifth rate natives like these Naggs run the place. Dashed unfair, I say. Jolly stupid!"

In a slightly quieter voice he maintained his eulogy as the two of them set off on his first Naggian safari, and various small birds flew shrieking away from their path.

They were heading along the top of a gently rising open spur of grassland which led slowly towards a fairly open thicket spread out on a miniature plateau. To either side the pale blue plains were dropping away, and soon large yellow rocks appeared in the purple shrubs on each bank of the spur. Their height gave them a pleasant view of the spaceship and its surroundings, and Petrel, heroically keeping his end of the conversation up, would here and there point out locales of more than usual interest.

At length they reached the thicketed plateau and passed on to a winding trail which was satisfactorily soft beneath their feet. It had been constructed in this way (by Interstellar Safaris) for a very good reason. Hunters who clump loudly down stony or twig-infested paths have, not unexpectedly, a tendency to advertise their presence to potential huntees, who immediately display common sense by making off at top speed in an opposite direction. This, of course, is profitable neither for the hunters nor for Interstellar Safaris, and so all their trails are soft and silent.

But all was wasted upon Colonel Fitzshuffly, whose booming voice was more effective than the harshest motor siren. His views on the beauty of the countryside could be heard clearly from two hundred yards away, and sent large rabbit creatures plunging into burrows. His views on the Naggs could be heard at three hundred yards, and fierce leopard-like animals bounded away in terror. His views on his own shooting prowess, which could be heard at four hundred yards, at one time made a wandering Nagg quite sick with laughter, and would probably have done the same for the animal life, if it had not been too busy running away.

Petrel, an experienced guide, was not surprised when, at midday, they returned to the spaceship with an empty bag. He was paid for his job, and had developed the useful ability of being able to let con-

versation in one ear and out the other with no expenditure of energy, except for a varying series of expressive grunts. Thus he felt neither disappointment nor anger. The Colonel, however, was virtually apoplectic with both, and almost dangerous after four hours under the burning sun. Over a meal he depicted his feelings to Petrel with obscene clarity in a series of unprintable outbursts, and then went on to drink himself to sleep. So ended the first day of Colonel Fitzshuffly's last safari.

Next day there was another stormy scene, when Petrel suggested that the best way to attract game was not to talk, but the Colonel had a skin just thin enough for him to perceive that "he had answered some of Petrel's questions rather loudly yesterday", and harmony was restored. They set out again, under the hot glare of the sun, along a new and easier trail, which penetrated into a deep and torrid jungle.

About an hour after they had left the ship, the Colonel's first chance came.

"By Jove!" he exclaimed, and pointed ahead. A large red-crested bird with sparkling golden plumage was sitting with its back towards them on a bough overhanging the trail. With expert deftness Fitzshuffly swung his Hadron up to his shoulder and took aim.

Petrel, acting quickly, hit the rifle downwards as it went off. The bird squawked in fright, turned, saw the two men and arrowed away through the trees. The Colonel bellowed in surprise.

"Why the hell did you do that, Mr. Petrel?" he cried in fury. "A perfect shot and you go and hit my rifle! You clumsy fool! I'll report you to your company for insolence! What's your explanation?"

With tactful deference Petrel reminded him of the little booklet. With a howl of rage Colonel Fitzshuffly threw the booklet on the ground and trampled it in the mud. When he had finished, Petrel produced a spare copy from his pack and handed it over. After a short drink they continued on along the trail.

A few minutes later a green-eyed tiger stepped out from a tangle of ferns, bared its teeth and growled low in its throat. In terror Fitzshuffly hefted his rifle. Petrel knocked it down, reached with his other hand for a tube in his belt, came up with it and pointed it at the animal. The tiger stiffened, paralysed. Petrel turned to Fitzshuffly.

"Colonel Fitzshuffly, you *must* look up every animal *before* you fire."



"But-but it might have killed us

"That," said Petrel, "is the reason you have been equipped with paralyzers. Now look up this animal."

Mutely the Colonel obeyed. NO, said the caption firmly.

"In that case," said Petrel, "we shall leave this fearsome beast in a state of impotent paralysis." And he turned and started forward. Colonel Fitzshuffly followed, keeping a wary eye on the tiger. "Don't worry about him," assured Petrel. "He won't wake up for several minutes, and when he does, he'll have the daddy of feline hangovers. He won't feel like chasing anything."

So on they went, one thin guide and one fat and fuming hunter. After a tactful silence of fifty yards, Petrel spoke:

"Colonel Fitzshuffly, I would like to explain these paralyzers to you again. I apparently did not make it clear when I gave them to you at the beginning of the voyage."

"You didn't say anything about them at all when you gave them to me, if I remember correctly," growled the Colonel.

"Perhaps not," lied Petrel with great restraint. "Anyway, Colonel, the situation is this. If you see an animal and don't know for certain whether it's waunau, you fire the red paralyser tube.

This holds it rigid in its position while you look up the booklet to find its caption. If the caption says NO, you leave it paralysed and hope the Naggs won't come across it within the next ten minutes. If it says YES, you deparalyse the animal with the blue tube, which can be attached to your rifle and operated from the shoulder, and there's your game. Do remember that it's red for paralysing and blue for deparalysing."

"Quite clear," boomed the Colonel sourly, and at that moment noticed a magnificent creature, half-unicorn, half-zebra, eating bulbous red fruits from a nearby tree. By Jove, he thought, if I can get that, I'll make old Vernonby sit up, and all the other fellows at the club too!

It was indeed a wonderful opportunity. Unfortunately, however, his excitement had made him forget which colour was the paralysing—he had been listening, in any case, with only half an ear—and as he could not bear to ask Petrel so soon after being told, he was reduced to guesswork. He had just come to the conclusion that there was an equal chance of it being either, when the creature flicked its long tail discontentedly and made off down the path, disappearing around a turn some fifty yards in front. This was too much. In a frenzy the Colonel fired his gun at random into the jungle, before Petrel could recover from a fit of silent laughter. Straight away, a giant elantaur dropped dead some twenty yards to the right.

Even Petrel was surprised.

After this, the Colonel, a better hunter than his exploits might indicate, gradually became accustomed to the strangeness of a Naggian safari. He soon absorbed a working knowledge of the local animals, and was often able to dispense with the booklet altogether. This gave him confidence, and he eventually was displaying such prodigiously excellent riflework as to surprise even Petrel. His reputation, of which he never ceased to talk, had, as the reader may have suspected, firm foundations, and on one four-day excursion he succeeded in breaking the Naggian record for heavy rifles by securing no less than twelve male elantours. But it must be admitted that the only reason he ceased to blunder was that he had learned the hard way.

At length their time drew nigh, and even the staid Petrel began to dream of wine, women and wrong. On the last afternoon he paid Fitzshuffly the supreme compliment of allowing him to venture out on his own, something strictly against the regulations. In actual fact

he did so out of a base hope that his end-of-voyage tip might be augmented. It was the worst mistake in his life, and a suitable punishment for his greed.

He spent the afternoon doing a job he detested, the pilot's pre-flight overhaul of his ship, and it was just as well he did. Circumstance was to decree a fast evening getaway for Fitzshuffly and himself.

As dusk was falling he heard Fitzshuffly clambering into the airlock and calling out indecipherable information in frantically excited tones. A few seconds later, the door of the freeze compartment slammed shut, and Fitzshuffly appeared in the doorway of the control cabin. His face was glowing with exultation.

"I say!" he shouted in a joyful bass, "I say! Do you know what I've bagged? You haven't a hope of guessing, Mr. Petrel, so I'll tell you."

He leant forward, eyes shining with triumph.

"I've bagged a *new species*!"

"You've *what*?" said Petrel, thunderstruck. "But you can't have. Every animal on the planet has been ."

The Colonel swelled like a bullfrog and gloated.

"Come and see for yourself," he commanded in the mighty tones of a man who has done the impossible with the flick of a finger.

Petrel climbed out of his chair, grabbed a half-finished bulb of peppermint wine and headed for the door. Colonel Fitzshuffly followed after him with a running burble of self-congratulation.

"Dashed hard to get, you know," he boomed, as Petrel negotiated the corridor. "I heard a lot of laughing behind a bush, just as my—er—just as my rifle misfired, and thought it must be you. But it was this queer beast feeling jolly hysterical after catching a glimpse of me, and I bagged it before it could recover."

As he came to the freeze door, a horrifying thought struck Petrel. Colonel Fitzshuffly had never seen a Nagg, and it would be just like a Nagg to break into hyaena laughs if the Colonel made a mistake. With sinking heart, Petrel fumbled at the lock, the exultant Fitzshuffly shouting in his ear:

"By Jove, you know! You'd almost think they were intelligent the way a horde of them chased me back to the ship, Mr. Petrel! Reminded me of a tribe of apes! Beats me why we haven't seen any others around!"

Petrel opened the door.



"There you are, by Gad, Mr. Petrel! Haven't seen *that* in your little booklet, have you?"

Petrel began to choke.

"Well, Mr. Petrel, haven't you got a bit of praise for a first-rate bag? Eh? We'll call it the Shuffly, short for Fitzshuffly. By gad, I'll have my name in the annals of fame."

Suddenly it dawned that something was wrong.

"Mr. Petrel, what's the matter?" cried the Colonel in worried wonder.

Petrel turned.

"Colonel Fitzshuffly, the animal which you have just shot, that ugly beast in there, as you would call him, is no less than Branda-kai, the chief of the local tribe of Naggs."

As he spoke, the two of them became aware of discordant cries outside, and something began to bang loudly on the airlock. With a sigh, Petrel headed for the controls.

**NIGEL JACKSON**

---

## The Next Issue

One of the most unusual and controversial stories we have yet published is coming up in next month's NEBULA. "Legends of Smith's Burst" is its title, Brian Aldiss its author, and we know that it will be extremely controversial by the positive and vigorously dissimilar reactions of everyone to whom this story has been shown.

All we can say at present, without spoiling the treat you have in store, is that this yarn is the delightfully whacky account of a Terran's journey upon a really *alien* planet where almost anything can happen . . . and frequently does!

The other stories in NEBULA No. 41 are by Philip High, Philip Stratford, Bob Shaw and Nigel Jackson. Our unique line up of regular features will also be included.

It will be a whole month before this number appears at your usual shop, but you can only be sure of securing a copy by ordering immediately. It is an issue that will be well worth waiting for.

---





## Imbalance

*Earth had successfully beaten off her invaders but in the twisted depths of their alien minds still lay the need for revenge*

*Illustrations by Eddie Jones*

After a decade, it came.

Reason had said no, the Makkees would not set their sights at Earth again after their vanguard had been near-obliterated, their game discovered, their prize destroyed.

But memory recalled the parting cry of Drahk, the leader of the vanguard, as he escaped in the solitary remaining flying saucer: "This is only a passing defeat, Magellan. There are other countries and other planets. Keep out of my way."

Mere bravado, said reason, to cover humiliation.

But humiliation is a wound that calls for revenge, and revenge is not concerned with reason.

Therefore, when after ten years the news came, I was not exactly dumbfounded.

It came via radio from a small cargo ship in the North Atlantic, and was: "Flying saucer is passing over, heading due east. Estimated height, one thousand feet." The ship added its own position. It was some 950 miles due west from the coast of Ireland.

Gerry Cross, still my second-in-command, brought me the flimsy. His face, red and round as a Dutch cheese, was even more cheerful than usual. There was hopeful anticipation in his eye, but he said nothing, waiting upon my reaction.

I stared from the message to him and said nothing either.

He hesitated, then ventured: "It must be the Makkees, Charles. They're the only pigeons who travel by flying saucer."

"If it is a saucer."

"Can't be any mistake about that, old man, surely? If it's only a thousand feet up, all the ports and trimmings will be as clear as daylight."

I glanced through the window at the all too familiar ceiling over London: one vast featureless cloud, stretching unbrokenly from horizon to horizon, so thick that the sun above failed to convey even a hint of its whereabouts.

"Oh, it's not like that in the Atlantic," Cross protested. "I checked. The ship's well into an anti-cyclone—not a cloud visible."

"H'm." I looked again at the message. "Just 'a flying saucer.' Only one?"

"I've alerted the look-outs. It's too early to expect reports just yet. This one may be a lone scout. It mightn't even be manned. Maybe the Makkees have sent it on ahead just to see how we tackle it a sort of trial balloon."

It looked like bad news for the world but, confound it, underneath I was as pleased as Cross. For people of his and my temperament life was conflict. Many men preferred to live in a groove which led from birth to death. They liked to know where they stood and where they were going. I envied them, I envied the absorbed family circle round the TV set, I envied the mystic his serene contemplation of his navel and the promise of Nirvana. They were alive in a world that was death to me.

I wasn't made like that. I never felt I was alive until the threat

of the end of life came into things. Life was something to be fought for, not enjoyed like a long cool drink. This was no reasoned attitude. It was something I'd inherited from my father, a criminal who was successful but not notorious—he was successful because he got away with everything.

He stole what he wanted and nobody could stop him. But it was the stealing, not the having, that was sweet to him.

He died a slow death when automation made it a world of "haves." There were no "have-nots," was no need for wars, for foreign politics, or for thieves, however accomplished.

But the fully automatic world was not planned by men, but by an ancient race, called the Makkees, from beyond the stars. Man was only their unconscious tool, to provide a ready-made paradise for them to move into and take over when the time was ripe. And, on due date, they endeavoured to move in, sending a vanguard in flying saucers to make the final preparations.

But Man proved to be a tool which turned against them in their hands. Aided by a dying explorer, "Prospero," from a planet on the far side of the galaxy, mankind wiped out the vanguard, save for one saucer and two Makkees, who escaped back into space.

One of the escapees was Drahk.

I would rather all of them had escaped than he, the leader. Not because he was the leader, with more brain and resource than the rest put together. But because he killed Sarah, the woman I loved and he desired.

While he lived, I could not count the score settled against him. I could not forget Sarah. I could not forgive Drahk.

And Drahk still had a score to settle with mankind, and with myself in particular, for defeating him.

Yet for ten years now nothing had been seen of the Makkees. That meant little. A decade was a day in their enormous life-span.

Against the threat of their return, mankind employed the time to make this world an undesirable place for them. For the Makkees, tough as gristle in soul, impervious to pity, were—despite their longevity or because of it—soft physically. The comforts of automation were as necessary to them as electricity on tap had become to our world.

So we deliberately destroyed the web of automation, known as "Goliath," which we had spun like thoughtless spiders. Some of it had already been destroyed in the series of pitched battles we'd

fought against the Makkees in my own country, from the West Country to London.

Fortuitously, I had become the Director of Britain, and I wasted no time in persuading the governors, such as they were, of other countries to agree to world-wide sabotage of automation. We knew it meant our own directorship would become largely ineffective, that we would shrink to little more than nominal rulers. But self-preservation in the wider sense demanded it.

Decentralisation was the aim. Standardisation had all but brought our downfall, and henceforth it was out. Right out.

Everything became local and self-contained. Every large town was autonomous. We kept electricity on tap, also TV, but each small area created its own source. Systems were deliberately different. We wanted a nation-wide hook-up to become an impossibility, the trap-like jaws of Goliath to be forever impotent to snap shut on us as once they did.

Even in a decade these separate social cells fostered the seeds of new cultures. Necessity had forced on us a way of life promising infinite variety. Total insulation, however, was avoided. There had to be communication. Travel was made more difficult, that was all. People now seldom travelled through mere restlessness and boredom, for the sake of rushing about at speed. They travelled to exchange ideas or study other cultures, but public transport was limited. Private cars and 'planes were forbidden, though low-powered cycles were permitted.

And people discovered they had feet. The pastime of hiking returned from the hazy past. That was a good thing. One could never imagine the Makkees hiking.

This strenuous new world suited adaptable man. For the Makkees, hating discomfort, miserable without air-conditioning, lost without all modern conveniences, it would be hell, a bewildering maze.

Which was as it should be.

Unfortunately I was just as much out of my element in this new pattern of orderly disorder as any Makkee would be. In a world of live and let live, I had no opposition. There was no one to fight, and I was spoiling for a fight.

Since Sarah was dead, and no one else could take her place in my heart, life offered me no new worlds to conquer. At least, not yet. But there was one hope that it might, and that had kept my spirit from withering these last few years.

The hope was Prospero's spaceship. We had searched for and found it, but as yet didn't understand how to operate it.

My friends, Madden and Brewster, had once asked Prospero to pass on his spaceship to us. They told me he'd smiled derisively, and answered: "It would be like giving a monkey a rocket fighter-plane. You lack the necessary mental equipment."

Now he and they were dead, and we had discovered that there was a good deal of truth in his words.

As I waited with Gerry Cross for further news of the reported flying saucer, he voiced my own thoughts: "Perhaps we overdid it when we smashed up the radar stations, Charles. If the Makkees are preparing another invasion, we'll likely get caught bending. A few look-out men with telescopes on a cloudy day like this are about as effective as half a dozen tin cans hanging on a trip-wire."

I argued against my own doubts as much as his: "Uvova said there would be no invasion at all if we carried out a thorough scorched-earth policy. Thorough, mark you, not half-baked."

Uvova was the master electronic computer we had captured intact from the Makkees, and if it were fed comprehensive data it was uncannily accurate in its predictions.

"True," Cross admitted. "But Uvova is bound by the laws of logic and rationality. Remember, Sarah once threw a spanner in its works by an irrational act of love. Drahk could also upset its calculations by an irrational act of hatred."

"I think not. Drahk is too cold a fish to lose his head."

The 'phone rang. It was a call making a tortuous progress through a string of exchanges from Bristol. The lone saucer had just passed over that city at great speed—it had only been glimpsed. It was still heading east.

"Looks as though it may be making for London," I said.

Cross looked out at the flat, grey sky, and became suddenly solemn. "It might be wise to take cover in the basement. We can't rustle up a catapult between us, but we know the saucer can chuck flaming thunderbolts at us."

"Why, Gerry!" I said, surprised.

His face went even redder.

"I mean, it's this way, old boy. If there's only one saucer—and there seems to be—then ten to one Drahk's in it. He probably knows we've burnt our bridges, boats, bows and arrows and what not, and that he can't persuade the rest of his crowd to come and rough it here or waste any time on us. But he has a personal

vendetta with you. This might be a lightning raid just to bump you off. Don't take any chances, Charles—the thing'll be overhead in a few minutes."

I might have known he was really thinking of me.

I kept my face straight, and said: "It's too dirty in the coal cellar. I'm staying here. But you'd better get your bike out and pedal away—fast."

He stared at me, shrugged, and said: "Can't, old man. Broke the chain yesterday. Have a fag?"

I took one. We both lit up—and waited.

The minutes ticked by. The 'phone rang again. I nodded to Gerry, and he took it.

"It's just whizzed over Reading, going like a rocket," he reported. "Still on a bee-line for London."

"There's all Europe beyond London," I pointed out. But privately I thought London was the target, all right. For no reason: I just had a hunch.

We waited, and smoked, and waited some more. And the flying saucer never showed up.

At length the telephone rang and told me why. I listened, and said: "All right, bring him to me here."

"Well?" said Cross as I dropped the receiver back.

"The saucer crashed. In Windsor Great Park. Only one body in it. They got him out alive. He was a bit shaken up, but apparently all right. They said he wants to see me. They're running him up in a Civil Guard truck."

"Good Lord! Drahk?"

"No. It isn't a Makkee at all. It's a white man, they said."

"Who?"

"I don't know. They didn't say any more than that."

"How the heck did he come to be tearing about in a flying saucer? I thought all the saucers were smashed, except the one Drahk got away in. Did he build it himself?"

"If you can wait till he comes," I said, patiently, "I'll ask him for you."

But I never did ask that fatuous question. For when the flyer was escorted in between a couple of Civil Guards, it was plain that there were more immediate questions to ask.

He was the oddest near-human creature I'd ever set eyes on. The most prosaic thing about him was his apparel, a sort of one-



piece boiler-suit, plain black. As for what it clothed. Well, he had a head, a torso, two arms and legs.

He had a big, drooping nose, reminiscent of a tapir's. Glowing on either side of it, an eye of bright ruby. Above the eyes, browless ridges. There was grey fur over his skull, which I took to be a cap, and then discovered wasn't.

His walk was indescribable, a bouncy sway, for his limbs seemed to be jointless, like lengths of rubber hose. His fingers were long, and jointless also. I didn't count them, but there seemed to be rather more than enough.

However, he was a white man, all right. White as flour, except for a bruise centred on one red eye.

I wasn't prepared for this. A sense of disappointment that it wasn't the Makkee, after all, joined with resentment at not being properly informed.

I snapped at the nearer Civil Guard: "Why wasn't I told about this?"

"About what?" he countered, innocent-eyed. He was young, self-possessed, casual and off-hand. I could see he would let me make a fool of myself if I attempted to bully him. So I ignored him and questioned the red-eyed being, who so obviously came from another world than ours.

"Where do you come from?"

He answered in a thick, slurry voice: "Magellanic." And stared at me with his burning eyes.

"Eh?"

Again the indistinct voice said: "Magellanic."

I was nonplussed. Gerry offered: "Probably means one of the Magellanic Clouds, old boy. They're a couple of nebulae—somewhere."

The young Guard said quietly: "Personally, I think that's a red herring, and we were right in assuming that he was asking to see you, Mr. Magellan. He doesn't speak a word of any recognisable language. His own lingo seems to be full of clicks and grunts, like that of a Central African negro's. What he keeps trying to say is 'Magellan', but his tongue adds a sort of involuntary click to it."

This young man's condescending, rather bored manner got up my nose. He was a languid six-footer, and I disliked people being taller than me. Which was a pity, because most people were, including Gerry.

"And what's *your* name, young man?" I said, frigidly.

He grinned suddenly, then said: "Alaric Hicks."

Gerry chuckled. The other Guard looked away uneasily. The alien continued to fix me with his fiery gaze.

"Then it's just as well he wasn't asking for you," I said, mentally chalked up a mark for myself, and then yelped aloud. For the alien had suddenly jabbed at my chin with one of his white, worm-like fingers—it was like the touch of an icicle.

"Magellanic," he snuffled, with a new intonation, which might have been a note of interrogation in his language.

"Yes, damn it, I'm Magellan," I said, irritably. "How did you get hold of my name? What do you want to see me about?"

Hicks sighed, and shook his head sadly, as though I were beyond hope. Gerry reminded me: "He doesn't speak English, old man."

"Neither do the Eskimos," I snarled, "and I get along with them very well. All that's necessary is a little common sense and imagination. For instance, diagrams and drawings are an international language."

Saying which, I snatched up a pencil and scribbling tablet from my desk and proffered them to the alien. He took them, examined them closely, bit an inch off the pencil, chewed it reflectively, and swallowed it with an effort.

I gasped. Hicks commented: "Very good manners, you must allow. His host's food tastes horrible, but he doesn't like to offend him by refusing it."

Gerry abruptly turned away and pretended to look out of the window. His fat shoulders were shaking.

I rudely grabbed back the pad and—just in time—the remnant of pencil, slammed the pad on the desk and drew a map of the solar system. Some of the orbits were a bit flat here and there, but it wasn't a bad effort considering my impatience. The tiny circle representing Earth I pencilled more heavily than the rest, and so that there would be no mistake I marked a cross against it.

I gave pad and pencil to the alien. I waved my hand around to encompass all Earth and Earthmen, including those present. Then I pointed at Earth on the map. Then I pointed at the alien.

"That's where we come from. Now, where do you come from?" said all this dumb show, clearly enough.

He looked doubtfully at my pointing finger, then at the map. I expected his eyes to light up with recognition, and then he would

point to Venus or Mars or somewhere. And then we'd all know where we were, or at least where he'd come from. But he merely turned the map this way and that, then hesitantly returned it to me.

"The Earthman's art is strange and obviously symbolic—but of what?" murmured Hicks.

"Well, it settles one thing: his intelligence is of no high order," I grunted, and then stood there like an empty-headed fool myself, not knowing what to do next. The alien waited politely for my next move, employing the time by feeling tenderly around his bruised and blackened eye.

Gerry Cross broke the impasse. Having mastered his hysteria, he turned and said: "Better put him through a course at Interlingual, Charles. Otherwise you'll never get anywhere."

Interlingual was one institution we had thought best to preserve. There was still no world language, and with all the different cultures now branching out there remained a need for a quick way to learn other people's terms of reference. In the hands of Interlingual's experts, and with the aid of their gadgets, you could learn to speak Hindustani, Russian, or what have you, within a week. Roughly.

The snag which bedevilled the early electronic translating machines was still something of a bugbear at Interlingual. The tapes chanted to your subconscious day and night, in waking or sleeping, the other language equivalents—nouns, verbs, adjectives—until your memory was full of them. But the mesh remained too coarse for many nuances and subtle distinctions, which slipped by unregistered.

This sometimes led to idiotic mistakes, which both machine and learner were too ignorant to correct.

For instance, a simple three-letter word like "shy" might be translated as "throw" instead of "modest". Or "palm" as "hand" instead of "tree." And so on.

However, the short course was sufficient for practical use in ordinary cases.

But this was no ordinary case.

I said: "And just how are the Interlingual boys going to get anywhere, you ass? So far as I'm aware, they don't have any tapes carrying Martian or Plutonian equivalents. They won't know where to begin."

Gerry scratched his head. "Never thought of that."

Hicks said in his Lord-let-me-be-patient-with-these-fools tone:

"Every foreign language was unknown outside its country's frontiers at some time. People learning it had to start from scratch. There are ways, such as pointing to this object or that and then exchanging the relevant noun, and so on. When Livingstone explored East Africa, he managed to converse with the strange native tribes all right. One only needs a little common sense."

"I see," I said. "Would you say you had a little common sense, Hicks?"

"More than a little, to be honest," he said, calmly.

"Good enough. From now on you're in charge of this particular native. You'll take him to Interlingual and play at being Livingstone with him, help the Interlingual lads to prepare a tape for him, share a course with him. Report progress from time to time, and bring him back when he can speak a reasonable facsimile of English. *Comprenez?*"

He made a good show of hiding the fact that I'd shaken him out of his annoying indifference, and said tersely: "Very good, Mr. Magellan."

I said: "You'd better start by finding out what sort of food he likes—he's probably hungry." And added sardonically: "I suggest you show him a few eatables, pointing to this object or that, pronouncing the relevant noun, exercising your wealth of common sense."

"I'll begin with an assortment of lead pencils," said Hicks, counter-punching neatly. He caught the alien by the place where his elbow should have been and wasn't, and tried to urge him to the door.

The alien shook him off and grabbed me not half so gently. He hustled me to the window, where I arrived rather short on dignity. Still gripping my right lapel, he did some rapid pointing with his free hand, omitting to pronounce any relevant nouns.

Nevertheless, the general drift was clear.

"Look here, friend," I protested, "how can I fly with you up into the sky when we haven't any wings and you've busted your kite?"

But he only pointed again to me, to him, and to the sky, urgently, conveying that we should waste no time in getting up there together. Somehow.

Gerry Cross said: "Perhaps he can levitate, old man."

"Perhaps. But I can't," I said roughly. "Hicks—and you



there, the other Guard. Call him off. Take him away. Feed him, water him, tame him, get him out of my hair."

Cross helped the Guards to pull him off my lapel, and the three of them dragged him to the door. He kept looking back over his shoulder at me with those eyes like hot coals, and clicking like a Geiger counter: "Magellanic. Magellanic." And plenty more but unrecognisable "ics".

As he began to vanish through the door, he gave up resisting physically, though continued to chatter. The clicks died away down the stairs. Presently, Cross returned.

"He's gone."

I lit another cigarette. "What on earth does it all add up to?"

"Haven't a clue. Perhaps nothing on earth."

"Where the devil did he come from? What do you make of him?"

Cross shrugged. "From another planet, obviously. A man—I suppose we can call him that—with a mission, which he thinks is urgent, anyway. But hardly the sort of character you'd expect to be chosen for a mission. No bearing and not over-bright. Not quite a fool, but—well, one of the unlucky accident-prone types

who muffs things, crashes, gets a black eye, fails to get anything across. If you know what I mean."

"Yes, I know the type. Wants to do something big, but something ludicrous usually crops up and spoils the effect."

I knew the type. I suspected I belonged to it.

"You'll have to get your bike mended," I said, suddenly. "I want you to come with me to Windsor and take a look at that crashed saucer."

We went in the Director's official car. The saucer was a complete wreck. With the natural ill-luck we'd attributed to him, the alien had piled it into the biggest, toughest oak tree in the Park. The oak was uprooted and lay on its side on the green plain, and a shapeless saucer was draped over it like a dishcloth on a line.

The only reason that our visitor could have come out of that without broken bones must be that he had no bones to break.

We inspected it closely. After a time: "Well, what do you think, Gerry?"

Cross had been mentally fitting the pieces together, as I had. "It's a Makkee-type saucer, old man—I'd stake my worthless life on it. Any differences from the models we saw too many of can only be minor."

"I agree. But our friend isn't a Makkee—nothing like it."

"No. But perhaps he's been sent with a message from them, because they daren't come themselves. He seems to have been instructed to ask for you by name."

"Another ultimatum from the Makkees?"

Gerry shrugged. "That's up to Interlingual—and young Hicks—to find out."

When we returned to London I contacted Nunn. He was one of the world's best scientific brains, atomic physicist, mathematician extraordinary, cybernetician, engineer. I, who was baffled by a mere quadratic equation, respected his ability. He, mentally bold, physically timid, respected my reputation as a military leader and man of action.

When Prospero's spaceship was discovered, Nunn was made head of the research team appointed to investigate it. For four years he worked on the ship itself, amassing data. The next six years he spent studying that data and the few notes Prospero had left.

For the past year he'd been living at Hampstead, working with Uvova, the great Makkee computer we'd captured on those Heights. I had never returned to Hampstead since those days. That was

where Sarah was killed. The whole district depressed me.

So now I 'phoned Nunn instead of visiting him.

"How's progress? Have you found out what makes the thing tick yet?"

"Very nearly, Mr. Magellan. In fact, we have all the answers. They're as simple as BCA."

"BCA? You mean ABC?"

"No. They'll be as simple as ABC when we *have* the correct sequence, which we haven't discovered as yet."

"Don't be so sadistic to a poor moron, Nunn. It wasn't my fault I was born dim. What are you talking about?"

"I'll try to explain. Take a motor car as a simple analogy—too simple, really. We've got as far as understanding that the combustion of petrol in a closed chamber is the driving force. What we're after now is the Otto Cycle, the sequence of control. Once we've got that, the transmission system and the use of gears, throttle, clutch, brakes, and so forth, require only straightforward deduction, aided by Prospero's handbook—what there is of it. What we're attempting is to feed Uvova with the right questions in the right order. If we succeed, then we'll get the answers in the correct sequence. ABCDEF instead of BCAFDE, and so on. Does that help?"

"Fractionally. So you're sure now of the general principle which motivates the ship. Can you describe that simply?"

Nunn made a brave try to, but my brain was soon spinning.

It had long been known that electrons, tiny knots of energy, sometimes jumped from one orbit to another without taking any measurable time over the trip. It was as though an electron unknotted itself and the energy seeped across some timeless dimension and reformed itself in the same electron-pattern in practically the same instant but in a neighbouring orbit.

Somehow Prospero's spaceship, and all its contents, could be transformed into pure energy, could flow across the timeless dimension and reform itself at some different point in the space-time continuum. Any point, in fact—distance was irrelevant in this strange dimension, and time, of course, non-existent.

Prospero had once claimed that his science was far superior to that of the Makkees. It seemed no empty boast.

I told Nunn: "I'm sure you've got something there, though I'll never understand what. What I want is a simple working manual of the ship. Press Button A, count to five, then Press Button B sort of thing. Because I want to be the first to take a trip in her.

D'you think there's any reasonable prospect that you can produce one in the near future?"

"Oh, yes, Mr. Magellan. I have every hope that the sequence Uvova is digesting at the moment will prove the correct one when he regurgitates it tomorrow."

I wondered briefly, irrelevantly, why ships were female and computers male, then said: "Good—let me know." And hung up.

Next day Nunn rang to say that yet again they'd failed to sort the alphabet into order, but he was still optimistic: they were close to it.

The day after that, Hicks rang me from Interlingual. The alien, now known to them as "George", because his own name was a concatenation of clucks and clicks that sorely tried the human tongue, was also progressing. But slowly. He would never be top of his class.

However, they'd learned where he had come from, and how. And it wasn't Mars or Venus.

It was a planet of Alpha Centauri, almost the nearest star, four and a quarter light-years distant. It had taken him four and a half years to get here, travelling close to the speed of light, though it hadn't seemed that long to him because of the time-dilation effect. We hadn't realised that the Makkees' saucers could hit such a lick in space, though we might have deduced it from the speed with which they'd spread over the Galaxy.

For it *was* a Makkee saucer. George had stolen it and escaped in it.

It appeared that the Makkee invasion fleet, bound for Earth, had swung aside when they learned from Drahk that Earth was no longer habitable for them. The planet of Alpha Centauri, called Vathic (there had to be an "ic" in it) was conveniently near. Like Man, its inhabitants had also been impregnated with the Makkee seeds untold ages ago. And so Vathic too had trodden the long, predestined path to complete automation.

"But," said Hicks, "there's some reason why the Makkees would have preferred to occupy Earth rather than Vathic. Perhaps we made a better job of automation than the Vathicans did. But I believe it's because only half of Vathic is available to the Makkees for settling down in suitable comfort."

"Why only half?"

"Vathic has ceased to rotate on its axis. Like Mercury, only one side of it receives sunlight. I'm having a spot of semantic



trouble with George about that. One side of Vathic he describes as 'light'. The other side he describes sometimes as 'dark' and sometimes as 'heavy'. Both 'dark' and 'heavy' are the opposite of 'light', of course, but I can't grasp what he's trying to convey by employing both adjectives. I expect it's the damn translator gremlin again. So far, George's idea of English is just plain comic—probably like my idea of Vathicanese. I'm picking up some everyday phrases for the tourist as I struggle along with George."

"Good—keep picking 'em up. They might come in useful one day."

"How? I don't see much scope. It's scarcely likely we'll ever reach the planet Vathic."

"Nothing is impossible, Hicks."

"Really? Ever tried to push an elephant through a keyhole, Mr. Magellan?" The maddeningly superior tone was evident again.

"No. But doubtless with resource one could boil an elephant down into stew and squirt him through."

A pause.

"I mean a *live* elephant," said Hicks, forced to second thoughts.

"All right, a live elephant. Turn his atoms into pure energy and reconstitute 'em on the other side of the door. The same elephant, still alive. And if you think that's impossible, let me tell you that just lately I've been given evidence that it isn't. What's more, I shouldn't be in the least surprised if some day you yourself will travel to Vathic in that fashion. So polish up on those Vathicanese adjectives."

That's taken the wind out of your sails, my boy, I thought, as I hung up. I vowed to continue to take Hicks down peg by peg until he'd need a foot-stool to look up at my boot-soles.

Then I regretted I'd hung up on him so soon. I wanted to know how George had managed to escape in a Makkee saucer.

Pride forbade me to ring back and ask. Anyhow, soon Nunn rang me from Hampstead and I had other matters for conjecture.

"I'm pretty sure we've got it now, Mr. Magellan, from A to Z. I'm going back to the ship for some practical experiments. If they're successful, I'll be able to compile that manual you asked for."

"Congratulations, Nunn—fine work," I said. "I knew you'd do it." Nunn constantly suffered from totally unreasonable doubts about his ability, and although he kept up a front, I knew he needed to be patted on the back three times a day after meals. "I'm coming with you. I want to be in on this."

"I'm glad to hear that, Mr. Magellan." I'll bet he was. If anything could conceivably blow up, he'd prefer me to risk blowing it up while he watched with scientific detachment from a safe distance.

I rendezvoused with him at two o'clock in the afternoon at Paddington Station, bringing with me Gerry Cross and a hamper of food and drink. For, to travel to the extremities of Cornwall these days was quite an operation. The Cornish Riviera Express and restaurant cars were luxuries as dead as a Roman Bacchanalia. The monorail had been scrapped and replaced by the old-style double lines. But each area had its own particular gauge, so a straight run through was impossible. Because of this we had to change trains eight times.

All very inconvenient for us—and for any Makkees who chose to try to live in our world. It was another of our methods of dissuasion.

Owing to the bad connections, it was dawn next day before we reached the small coastal town of Merthavin, where the windows of fishermen's cottages stared at the Atlantic. And at the tiny point which jutted from the rollers four miles out and was called Moble Island and was our goal.

We sailed out there, the three of us, after breakfast.

And for only the second time in a decade I set foot on the narrow, sandy shore of "Prospero's" island. Here it was that that strange being from some unknown planet 95,000 light-years distant had come to die. Die he did, and we never found his body.

But we found where he had lived. It had been described vaguely to me by Madden and Brewster, who had stumbled upon Prospero in his retreat. There was a cleft in a great moss-covered rock, leading to an underground cell packed with electronic apparatus.

When my companions and I first came to the place years ago, Prospero's weirdly mobile chair stood empty and rain-soaked on the beach. We wondered at that.

Then we ventured into his lair with torches, for the power had been turned off. On his desk lay a long sheet of paper inscribed in block letters. Probably he'd never seen hand-written English. Equally probably this brief message had cost him much trouble, although there were no alterations.

It said:

*I think now you will drive the Makkees from your planet.*

*You are a people possessing potential greatness and I underestimated you.*

*I have been assisting your fight against the Makkees where and when possible. I believe it is your destiny to carry the fight to the enemy and defeat their purpose to rule this galaxy.*

*To you I bequeath my ship, which is a model from which you can learn much. I would time had been granted me to complete my description of its workings but my strength is almost gone. The last of it I shall expend swimming in the sea, for I was born in water and wish to end where I began.*

There was no expression of farewell, no signature. The letters were poorly formed as memory and energy ebbed. There were four other sheets of paper also painfully inscribed. They barely began to describe the "workings" of the ship, but even so they had started Nunn on the right track.

The ship itself lay in a great cavern beyond Prospero's cell. So far as I could remember, even Madden and Brewster had not been permitted to see it. The only human being to set eyes on it before us was an aged Merthavin man, long since dead, who told Madden he'd seen a big ball of white fire settle on Moble Island and sink into it. That must have been the ship at some stage of its matter-energy transition.

As I saw it on my first visit, and now again on my second, from the exterior the ship looked as solid and dull as a plain iron cannon-ball. So concrete, indeed, that it was impossible to visualise it taking any other form. But then, I'm told the atom bombs of old looked solid and dull.

Actually, the shell was incredibly thin. The thing was a mere bubble, though rigid. Prospero had used it as a one-man ship. But he'd been a giant. There was plenty of room within for half a dozen shrimps like myself.

Three members of Nunn's team were resident on the island, in charge of the ship. Nunn soon got them organised to assist with his programme of practical experiments.

And after a couple of days, Gerry and I were bored almost to yelling point. For the practical experiments seemed all to do with the calibration of dials and instrumental checking of circuits, and meant little to us.

There was none of the dangerous and exciting scenes I'd pictured. No tense pulling on levers while blue electric sparks spat past your ear and things began to dissolve in mist or turn white-

hot or the ship rose to bump its thin hull against the cavern roof.

I said to Gerry: "We were too precipitate. Nothing's likely to go off with a bang here while Nunn's still around. *Der Tag* will be when he suddenly remembers he left the bath tap running back in Hampstead and scoots off to the mainland."

We had to bear with boredom for another week. Then Nunn came to me and said: "I think I can promise you that tomorrow morning, Mr. Magellan, you can begin your trials. McCormick has all the data. He's getting it typed."

McCormick was the chief technician here.

"Never mind getting it typed. I can read your writing, Nunn. Let's start now."

His gaze strayed to a sea-gull swooping by. He was probably envying it its wings.

"I—er—I'm sorry, I have to go to London right away, Mr. Magellan."

"A sick aunt?" I inquired, sympathetically. "It's an awfully slow journey to London nowadays. Tell you what—you stay and show me how to run the spaceship, and then we'll travel together to London in it. It'll take no time at all—that's right, isn't it? You couldn't get there faster than that."

His lower lip trembled. He could think of no immediate reply.

I said: "One thing has been puzzling me, Nunn. Prospero settled in this spot to die. I was told he said he would have preferred to return to his own planet to die, but it was too late. But, surely, in the ship he could have returned home in no time?"

Nunn seized on the diversion. "That's true, Mr. Magellan. But he must have had his reasons. He was 95,000 light-years in a direct line from home, but he had come here by a very devious route, wandering all round the Galaxy. To return even by the shortest path, he would have needed to plot his course stage by stage, stopping every so many light-years to take fresh bearings. It would have meant stopping perhaps a thousand times—the Galaxy contains at least a hundred thousand million stars. And he was expecting to die at any moment. He was probably right: there wasn't time."

I pondered, then said: "So you can't just pick a point in space and tell the ship to go there—and it does?"

"You can—if you know precisely the distance and direction. But in an immensely long journey, the slightest of errors in the

angle of departure would make you miss your goal by a tremendous margin and perhaps become hopelessly lost."

"I couldn't get lost on a short trip, though—say to Alpha Centauri?"

He stared at me. "You weren't thinking of going that far—yet?"

"Tomorrow, maybe."

He shook his head. "It will take a lot of calculation first. Uvova will be necessary." His eyes suddenly brightened. "I have a suggestion. I'll leave for London right away, contact the B.A.A., and work with them and Uvova. Then I'll telephone the results through to McCormick, and then he can set the dials for the Alpha Centauri trip and show you how to set them for the return. Meantime, you can practise short trips into space of a thousand miles or so."

I smiled. "You're a fast thinker, Nunn," I said, equivocally. "All right, then, off you go."

He went. He could be a fast mover, too, even though wingless.

Next day, McCormick handed me the typewritten manual; also a concise verbal lecture. Once the dials were pre-set, there was nothing much to handling the ship, yet the thing was full of mysteries and what seemed to me downright impossibilities.

For instance, one of the safety devices was an altimeter which ensured that the ship didn't overstep a one-kilometre limit (roughly) when approaching the planet of its destination. You were certain of at least that much margin of safety, and relieved of visions of the ship trying to materialise itself miles beneath a planetary crust.

What baffled me was how the altimeter could function when it, too, existed only as energy. I felt like an ape trying to resolve the impossible contradictions of wave guides. Or modern man trying to visualise the finite, infinite, bounded, boundless universe.

Setting the dials was a complex job. On the other hand, the manual controls for landing were as simple as those of an automatic lift. Even Gerry could understand them.

"Where would you like to go?" asked McCormick, when he was satisfied we'd mastered the manual. "A thousand miles up?"

We were standing beside the curved, outward-hanging door.

The ship was lit within and looked cosy in the big, bare cavern.

Gerry looked up at the rock ceiling not so far above. "It's the first hundred feet I'm worried about. Going through that!"

"You won't feel a thing," said McCormick, encouragingly. "Professor Nunn said so."

McCormick had more faith in Nunn than Nunn had in Nunn.

"Let's go to the moon," I said, and McCormick was startled. Gerry was, I think, more than startled. But I talked them into it. "This old bus has travelled to the ends of the Galaxy without seizing up," I said, patting its shineless hull. "It'll think nothing of a mere quarter of a million miles."

"I don't think much of it, either, old boy," said Gerry. "Not for the very first spin, I mean. Still, if you're game, I am."

McCormick abandoned argument and got busy with slide rule, tables, and dividers.

So we went to the moon. For me, it was about as easy as saying it. McCormick set the dials, and we shut him out and gave him time to reach the open beach. I went according to the book. So did the ship.

We sat comfortably on the couch, watching the TV screens, which depicted the cavern around us. And just as though someone had switched to another programme, the screens suddenly showed us something like a white rough-cast wall bespattered with black paint; also, hung around us like a black curtain thick with brilliants, the spectacle of outer space.

We had no sensation of movement whatever. We might have been enjoying a stay-at-home evening with the television.

The rough wall was the floor of a lunar crater. The black splotches on it were shadows. We could only just perceive the tops of mountain ranges in the distance, the sharp curvature of the moon sinking the bulk of them below the horizon.

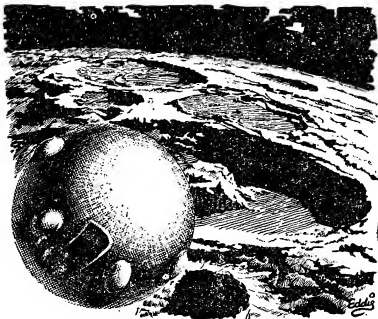
Afterwards, comparing notes with McCormick, we agreed that we'd probably been hovering over the ring plain of Helicon.

I manipulated the landing controls. Like a balloon with gas escaping, the ship sank gently to the moon's surface and rested on a bed of what looked to be greyish slag illumined by limelight.

We were the first men to reach the moon. And apart from ourselves and three technicians, no one knew about it.

"We should have brought spacesuits and gone for a walk," said Gerry, suddenly breaking our silent contemplation.

But the ship carried no spacesuits. Probably to Prospero they would have seemed as antique, clumsy, and rather comic as medieval suits of armour seem to us. He had once put an impenetrable force screen about Moble Island, and there seemed no reason why



he couldn't have drawn a miniature one around himself and so, contained in his own aura, be free to walk in a poisonous atmosphere or a vacuum.

Such things were not for us.

After a while, we returned, but not quite to our starting point. We materialised, without any awareness of having been dematerialised, some 3,000 feet above the Cornish coast. I let the ship sink smoothly as a helicopter towards Mobile Island. We could see the upturned faces of the technicians on the beach.

I set her down in a small clearing this time.

McCormick came running, eager to hear all about it. We were just as eager to get him to plot another course.

It was odd that merely plotting the course to Mars took hours, and the trip itself no time. We went there next day. Vast deserts, endless miles of lettuce-like plants, deep and ragged fissures. No canals, no signs of humanoid life.

Next day, excursion to Venus. This time we ventured out of the ship, trusting Prospero's statement that the Venusian atmosphere was breathable. It was, with an ammoniacal tang which brought tears to our eyes. We didn't remain out long in the sunless half-light, but we saw some creatures hopping around. They

were as grey as the sky, large as mastiffs, hopping like rabbits and grunting like pigs at every other hop.

When we returned, our earthbound pilot, McCormick, was called away to Merthavin to take a 'phone call from Professor Nunn. He was away half the day. As he came sailing back, we saw two other figures in the boat with him. Gerry was longer-sighted than I, and identified them first.

"Civil Guardsman Hicks. And Rubber-bones from Alpha Centauri."

"Nice timing," I said. "But I never told Hicks to bring him here or even that we were here."

The keel ploughed into the sand at the sea's edge. McCormick was out first. He waved a thin notebook with an elastic band round its waist.

"I've got all the dope from Professor Nunn, Mr. Magellan. It'll only take an hour to set the dials for Vathic."

"Good, Mac. Go ahead." And off he went.

Lanky young Hicks stepped ashore in one leisurely stride.

"Where did you spring from?" I asked.

"Heard there was a boat due to sail, thumbed a lift. Knew you were here, and why."

"How did you know?" I asked, puzzled.

"Initiative," said Hicks, carelessly. "Besides, I'm a Fellow of the B.A.A. With big ears. Anyhow, you ordered me to deliver George to you when he could speak English. George—speak English."

George was balanced on the bow preparing to jump down. He was preoccupied with gauging the distance. Obviously, he didn't want to get his feet wet. His eye had healed but, with his ghost-white face and bright red irises and drooping nose, he still looked like one of Dr. Moreau's mistakes.

He jumped—up, not down. He flew a couple of yards inland. When he landed he went bow-legged to absorb the impact, and momentarily he looked like a pair of callipers.

He turned and snuffed politely: "Goodic morning." And added: "Ic."

"The 'ics' seem ineradicable," said Hicks, with even a hint of apology.

"Actually, it's goodic afternoon," murmured Gerry Cross. "However, meant in the right spirit."

"My whiskey is goodic," said George.



I raised an eyebrow at Hicks.

"It's those infernal translating machines," he said, his sang-froid wearing thin. "I did the best I could, but when an electronic brain can't distinguish between, say, 'mine', possessive, or 'mine', explosive, or 'mine', subterranean, then the odds are rather against you."

"Don't apologise," I said. "It's understandable, even if George isn't."

"Oh, you can understand him after a fashion, Mr. Magellan. He has a remarkable story to tell you—about the Makkees and Drahk."

At the mention of that name, my facetiousness fell from me like a dropped scarf.

"Has he, indeed? Perhaps I'd better hear it from you, to save time. Come up to our hide-out, have a drink, and begin talking."

So, while McCormick and his men worked in the ship, the rest of us sat in Prospero's cell, and Hicks told George's story, with occasional confusing interpolations from the author.

The planet Vathic was a world divided in two, the light and the dark, or the light and the heavy, as George sometimes worded it in his inconsistent English. Those who dwelt in sunlight were called "Nams". The others, "Danics".

George was a Danic, as his white skin, denied the sun, testified. The Nams were golden-brown people.

"There are other physical differences, too," said Hicks, "although the two races are branches on the same family tree. I gather the Nams are taller, thinner, more rigid."

Both races were scientifically well advanced, though the Nams, with their advantage of light, were considerably more so than the Danics.

"And I suppose they fight like cats and dogs," I said.

The bitter memories aroused by the mention of Drahk were brewing cynicism in me.

"Not exactly. The relationship is peculiar. The twilight frontier between them is accepted by both races as a social as well as a natural division. Of course, the Danics envy the Nams their sunlit existence. But they've never dreamed of starting a war of invasion. Anyway, they would have lost it. The Nams' superior technology gives them the edge. The Nams seem a superior people in every sense. They don't preen themselves because they have

all the advantages. In fact, conscience drives them to help the Danics in lots of ways."

"Surprising—and commendable," I said. "Thank heavens there's another civilisation besides our own which has progressed beyond murder."

"But they *do* kill each other," said Hicks, quietly. "If a Nam strays into Danic territory, he's instantly killed. And vice versa. An intruder is guilty of breaking the one inflexible international law. The frontier is inviolable. The penalty for crossing it is death. This has been so all through their history."

I shrugged.

Gerry said: "Pretty severe, what? Going a bit too far with the East is East and West is West lark."

We looked at George sitting shapelessly on a couch. I suppose he sensed our half-formed, unuttered questions. He gazed steadily at us in turn, then said: "It is bestic that way. If we do not cross the splitting line one on his each, we do not crossic all on our many".

"Very true, George," I said, and made a sign to Hicks. "Interpreter!"

"If we don't cross the dividing line one by one, then we shan't cross it in masses—or armies," supplied Hicks. "They're safeguarding themselves against their own warlike passions."

"Understood," I said. "This social history is all very interesting, but when does Drahk come on the scene?"

"I've been describing the way it was. But now the Makkees have taken over the whole of the Nams' side of the planet, and subdued the Nams by mass-hypnosis—the technique they used damn nearly successfully against us. Of course, their prize is only half a world, instead of a whole planet to themselves, which they'd expected to gain from the Earth expedition. Still, it's a warm, comfortable, automatic half-world. They couldn't possibly live in the cold, dark, only partially automatic Danic half."

"Then what made George so agitated? If the Makkees don't intend to do anything about the Danic territory——"

"But they do. I was trying to tell you about Drahk," Hicks cut in, with a sort of tired impatience. "He was in bad odour with the other Makkee leaders because you defeated him. However, he redeemed himself with a plan for a Brave New World for the Makkees. You'll remember they planned to exterminate the human race as soon as it was redundant, as soon as Earth was a hundred per cent. automatised. Well, they intend to do the same with the Nams and the Danics.

"Drahk suggested how it could be done with no trouble at all—simply deport all Nams to the Danic area. Each race is already more or less conditioned to kill members of the other on sight. The Nams will have this *idée fixe* strengthened by hypnotic suggestion. Naturally the Danics will fight back, if only in self-defence. The redundant races will exterminate themselves in a killing ground that the Makkees have no use for in any case. Rather neat, eh?"

Gerry said: "Clever devil, that Drahk. He'll be top dog of all the Makkees one day."

"Not if I can help it," I said, hating the memory of him.

Gerry asked: "How did George get to know all this? I can't imagine the Makkees taking him into their confidence."

"George was personally captured by Drahk," said Hicks. "He became a cross between Drahk's manservant and his official informant on Danic matters. Almost, sometimes, his confidant—if you can imagine Drahk unburdening himself."

"How did this happen?" I asked.

"Drahk was in the dog-house, as I said. So he was given a job no other Makkee wanted: to investigate conditions on the cold, dark side of Vathic. I say 'dark', but it isn't dark all the time, thanks to the conscience of the Nams. To assist their less fortunate fellow-Vathicans, they put a satellite station into orbit—a huge mirror with living quarters attached. It circles Vathic about once in twenty hours. So for ten hours out of every twenty, Danic-land has an artificial moon, reflecting sunlight. Of course, it's too distant to give more than a weak general light, but it helps."

"For us, it is lottic moonshine," George observed.

"He means it's very bright moonlight for Danic eyes, although it would appear feeble to ours," said Hicks. "George was one of the technicians on the station. Drahk suddenly appeared in his flying saucer and, armed with a paralysing ray-gun, captured the station almost single-handed. He sidestepped the assignment to the grim, comfortless hemisphere below, and gained his information about it by pumping George. Under George's direction, they made a number of saucer trips to the more important centres, but at no time did Drahk actually show his nose outside the ship."

"Later, when Drahk returned to the Nam country to make his report, he took George with him. The Makkees spoke poor Vathicanese, but George had picked up a smattering of the Makkee tongue and was sometimes useful as an interpreter."

"Drahk was still shunned by his kind and had practically no one to talk to, save George. In other circumstances, doubtless

Drahk would have treated George like an animal. As it was, a lonely outcast, he sometimes let his tongue run on.

"For instance, he told him about Earth and his defeat by an Earth leader named Magellan. But he was over-rash when he boasted that after a single conference he had reinstated himself as a Makkee leader. And then told George why.

"George was horrified by the bestial plan to wipe out his race and the Nams also. He hadn't realised just how ruthless the Makkees could be. He didn't give much for his own chance of survival, either. Drahk's attitude towards him had already become colder and more domineering.

"In more indulgent moments, Drahk had given him a few lessons in handling a flying saucer, probably with the idea of making George his chauffeur, so to speak. George was a good technician and his space-station job had taught him a lot about astronomy. One day, alone in the pilot's cabin, he came across charts marked up with the course from Earth to Alpha Centauri. Also maps of Earth, and a detailed map of England, with London ringed. He'd been told about London, and knew the Earth leader, Magellan, lived there.

"He decided to escape to Earth and summon the mighty Magellan to come and crush the Makkees again and so save his people. He prepared a cache of food, watched for an opportunity. It came, he took it. Four and a half lonely years later, he arrived. And the great Magellan couldn't understand him, and treated him uncouthly."

I rubbed my chin, then went across and nerved myself to grasp George's chilly, boneless hand. "I understand you now, George. I shall come back to Vathic with you. But after all these years I'm afraid it's probably too late to do much, if anything, for your people."

George's red eyes searched mine.

"Yes. Perhaps too late to exceptic Danics. Not too late to punishic Makkees."

("Exceptic—except—save," ran my thoughts. I was on the way to becoming an interpreter myself.)

"Drahk I will punish, I promise," I said. "Later, all Makkees. But I cannot take an army to Vathic yet. I have only one ship."

"Kill Drahk," said George.

I nodded. "I'm glad we feel the same way about it. My ship is almost ready to go. We shall leave within the hour."

Gerry said: "Hold on, Charles. We haven't a single needle-

gun on the premises. Nor even a circuit-breaker, for de-hypnotising the Nam zombies."

"I doubt if there are any such weapons this side of London," I said, carelessly. "To obtain some would mean waiting another two or three days. Anyhow, like my father, I don't respect armed robbery. Merely plain robbery."

Gerry looked puzzled. "Robbery?"

"Yes, robbery. For the moment I intend only to steal. I want to steal Drahk away, bring him back alive for the time being. I want a heart to heart talk with that gentleman. George can lead us to him. We'll try a smash and grab raid."

"All right, if you're so set on it, old man," said Gerry. "But this spur of the moment stuff. No proper plan, things get overlooked. How do we know the atmosphere is breathable on Vathic?"

"It can't be all that different from Earth's," I said, "or else George would have been in trouble. If he can stand the change of atmosphere, so can we."

Gerry said no more, but I could see I hadn't settled his doubts.

Hicks said: "I know you don't like me, Mr. Magellan, and I find you pretty irritating, too. But I'd like to accompany your raiding party if you'll have me."

"Why?"

"I've become quite fond of old George here. I'd like to help him. Anyway, we all hate the Makkees."

I considered, then sighed. "You can come. It should be a brief affair and we shan't have to endure each other's company for long."

"Thanks."

"Let's go and see how McCormick's doing."

We left the cell and made for the clearing. En route we met McCormick headed our way. "All set," he said, falling in with us. "I'll just show you the adjustments for the return trip. They're only slight."

In the ship, he did that. When I was satisfied I had memorised the sequence, I dismissed McCormick and his crew with thanks. We shut the door on Moble Island, though we could still see it on the screens. I waved George to a couch. He collapsed there in his peculiar formless heap. He'd been looking around curiously. He snuffled something in Vathicanese. Hicks answered him quietly.

"Anything wrong?" I asked Hicks.

"No. George was just wondering where we'd put the food to last four of us for four and a half years. I told him we shan't be quite that long on the way."

Gerry guffawed, but I said: "I suppose we should have brought at least haversack rations. But I didn't intend to stay for dinner. What does George eat, anyway?"

"Almost anything, but he prefers fruit. The Vathicans aren't great meat-eaters. There's an abundance of fruit on Vathic."

"Fair enough." I turned to George. "We shall soon reach Vathic. Just what part of it, I can't predict. We rely on you to guide us after that."

George waved a flabby hand from side to side, which I took to be a gesture of assent.

"Drahk not-deaded in smalic house but where at giftic . . ."

He trailed away, seemingly as much at a loss as I was, and said something in Vathicanese to Hicks.

Hicks told me "He was trying to say that Drahk lived in a small house on the outskirts of a Nam city called Murges, but George can't be sure where he's living at present. He may have moved to the Makkee HQ in the centre of the city, having been received back in favour. George thinks we'd better try the small house first."

"I agree," I said. "Let's hope he's still there. The snatch would be more difficult at HQ. Now here we go."

We went. And arrived. I had a passing thought that this mode of transport precluded the probable thrills of space-flight, but also its equally probable subsequent boredom. Long journeys become tedious in the long run.

Then I studied the living pictures of Vathic.

The fact that there were pictures proved that we'd arrived on the sunlit side. I doubted that much would have been visible of the Danic night-land.

The Nam country looked reasonably pleasant under a cloudless blue sky. There was a green forest which looked as neatly trimmed as a privet hedge, and acres of parkland which appeared to have been ironed smooth, like a billiard table. A perfectly circular lake mirrored the sun. All the rough edges of Nature had been sandpapered away. It was altogether too formal for my taste, but I wasn't a Nam.

The horizon seemed noticeably nearer than Earth's, and somehow you got the impression that the territory beyond curved away and down unnaturally steeply.

I commented: "Judging from the horizon, a smaller planet than Earth."

George, studying the screens apparently with wonder, said: "No. Vathic eggic like. We have come downic to brass tacks."

That stymied Hicks also, temporarily. Then he got it. "No, not smaller than Earth. Vathic is egg-shaped. We have come to the point—of the egg, that is. Hence the queer appearance of the horizon."

"H'm. Where do we go from here, George?"

But George was undecided. The countryside, it seemed, was pretty much of the same pattern all over Nam-land. Finally he chose a direction, and I manipulated the controls to drive us along horizontally. Came a gentle surprise. We slid slowly along the couches in the opposite direction. The acceleration hadn't been anything ferocious, certainly not sufficient to produce this effect of inertia overcoming friction.

Still, friction had lessened between our seats and the couches supporting them. It was like sliding on glass.

I stood up, and the effort carried me inches from the floor. My feet settled again fairly promptly and balancing was no trial.

"Gravity here is rather less than we've been used to," I said. "Not much, but it's noticeable."

"Of course," said Hicks, and sounded relieved.

A Nam city lifted on the horizon which refused to look normal. It was a big city, and George recognised it.

"Fronden," he said, and indicated that we should pass over it. We surveyed it as we did so, from around 3,000 feet. Again too much geometrical precision for my liking, a city made from the building blocks of a child Titan. Not one interestingly winding street, not one soaring spire or flying buttress. Squares and cubes, rectangles and semi-circles, streets straight as a ruled line. All white and clean as a tiled lavatory.

It was not a crowded city. Vehicles, obstinately rectangular, moved in the streets like tiny coloured tiles being pushed along, and there was plenty of room for them. There were pedestrians, but insect-small from this height. Nams? Makkees? Both?

George gazed at Fronden and his eyes shone like glowing embers that are being blown upon. For once he managed a sentence of almost flawless English.

"Is it not a beautiful townic?"

"How far is Murges?" I asked, more practically.

Not more than fifty miles, it seemed. Soon we came to it, a city so much a twin to Fronden that I wondered how George could have told them apart. The two shining threads of a monorail

system linked the cities, and George indicated the place where they ran like needles into the side of Murges.

"There."

I headed the ship there, lessening altitude simultancously. At the city's fringes, regularly laid out like tombstones, were small detached houses. As we approached, George placed the tip of a white, snaky finger against the screen, selecting one.

"Drahk his house."

My own fingers began to close like claws, as though I already had them around Drahk's amber pipestem of a neck. I heard Gerry whistling under his breath.

I brought the ship to rest some ten yards from the house. The only words in my brain as I flung open the door were: "Twere well it were done quickly." I burst out into the sunshine, having given no thought at all to the atmosphere, which was thin and bore strange, dusty smells which caught me by the throat even as I would have caught Drahk. I reeled about the shorn grass, choking. Gerry and Hicks were coughing harshly behind me.

The spasm passed almost as suddenly as it had come. I gulped and went on in long shallow strides—the weaker gravitation made you feel as though you were bouncing on a trampoline. I reached the door of the house. It was as black as Drahk's soul. I kicked it viciously and it sprang open. I strode through in fire-eyed fury, like Romeo seeking Tybalt.

From room to room I went, roaring: "Drahk! Drahk!"

And each room was empty—empty, it struck me belatedly, of everything. There was no furniture. The house was tenantless. I came back into the hall, there encountering Hicks and Gerry. I was bitter with disappointment.

"He *has* moved, damn him!" I exclaimed, wild as a beast robbed of its prey.

"Then—" Hicks began, and was cut short by the loud slam of the front door at the end of the hall. It echoed sharply round the bare walls.

And there had been no breath of wind.

I pushed between them and rushed to the door. It had neither handle nor window. I scrabbled at its edges. My fingernails tore. But the door was shut fast.

I looked at the others. My rage passed into bewilderment and unease.

"I don't like this at all," I said.



We hurried into the nearest room which looked out upon the ship. George was leaning against the doorway of the ship, regarding the house. I thumped on the window to attract his attention. He turned his head slightly, saw us, and made no further move.

I beckoned, and yelled "Come and open the door, you dimwit! Let us out!"

He remained impassive.

"My God!" I said. The window was set solidly in its frame and not designed to be opened. I snatched off my shoe and beat at the pane with its heel. The transparent material was as tough as our own unbreakable clearplast.

Slowly, I drew my shoe on again.

"We've sprung this trap very thoroughly," I said.

George continued to ignore us. He appeared to be waiting for someone.

We began a council of war, and had got precisely nowhere when a flying saucer landed outside, next to the ship. Three thin little yellow men climbed out of it and came walking towards the house. They were wrapped up in thick clothing, but I recognised the one on the right. It was Drahk.

They passed George, who watched them disinterestedly, although it was obvious now who he'd been waiting for.

Hicks sucked in his breath.

"Yes, old boy," Gerry murmured, "your pal George, whom you were so attached to, was just a decoy—and we were the ruddy ducks!"

"My fault, Gerry," I said. "Too damn impetuous, as you said. I wish we'd waited for the guns."

"Doubt if they'd have been of much help," said Gerry, philosophically. "That window's too tough to shoot through."

The two Makkees to the left of Drahk diverged, passing from our view on a mysterious errand. Drahk himself came right up to the window. His blank, black eyes carried no expression, not even triumph. After ten years he looked precisely the same. Framed in the window, he stared at us as though we were fish in an aquarium.

I knew he was gloating, and I couldn't endure it. I turned my back on him and walked out of the room. Hicks and Gerry followed suit and we investigated the other rooms in more detail. All the windows were the same, and there was no way out.

"We'll rush 'em when they open the door," I said.

We waited in the hall, and nobody opened the door. Instead, from several points in the house, came pouring steam-white clouds of gas.

"This is it," said Gerry, grimly, and held his nose. But he lasted no longer than Hicks or I. We tried to dodge the rolling clouds, but they merged into one great one which filled the house and our lungs to suffocation point. It drove us to the floor. As we coughed and retched there, the white vapour seemed to darken and become a thundercloud which pressed about us until we could not see, nor hear, nor breathe

I awakened as though from a long sleep, yawned, stretched my arms, and opened my eyes on a room I had never seen before. Then I remembered.

"Good morning, Mr. Magellan," came Hicks' dry voice from my left.

And: "You're feeling all right, Charles?"—Gerry's voice from my right.

I looked both ways and saw that we were sitting in three straight-backed armchairs, myself in the centre. Facing us across a crimson carpet was a desk with a vacant chair behind it. On the desk stood a visaphone with its back to us. Beyond was a room-length window showing a panorama of a typical Nam city with green pastures on the horizon. The room was as hot as a boiler-house.

My head was clear, but my legs felt numb and my throat hurt when I said: "What's all this in aid of?"

"Drahk was waiting for you to come round, so that he could grant us all audience," said Gerry. "But he became tired of waiting and popped out for a quick one."

"Oh," I said, and tried to stand up. My numbed legs did nothing but hang there like numbed legs. "Hell—I'm paralysed!" I exclaimed, with a nasty little palpitation.

"Take it easy, old man," said Gerry, soothingly. "So are we."

"Only from the waist down," said Hicks. "We've all been treated to a spinal injection. Whatever the stuff is, its effect isn't permanent. It's only to stop us from kicking Drahk all round the room before he has a chance to say his piece."

"Oh," I said, again, and then Drahk re-entered.

He was wearing his indoor, light-weight suiting, and looked as frail as a butterfly. He looked first at me, and without taking



his hypnotic, pupilless eyes from mine, seated himself at the desk.

That penny-whistle voice sounded across a decade. "There are other countries and other planets, Magellan. Remember?"

"I remember," I said, trying to keep control of the homicidal anger in me. "I remember Sarah Masters, whom you murdered."

"Still the sentimentalist, Magellan! But of course I am not surprised. I thought the possibility of a melodramatic revenge might tempt you here sooner or later. I gave you the apparent opportunity to carry it out sooner. My Danic servant—I believe you call him 'George'—effectively performed the task I set him."

"The lying fake!" snapped Hicks, bitterly.

"Not altogether. The only lie he told you was that he stole my flying saucer. In fact, I provided it, together with directions for reaching Earth—and you, Magellan. It is perfectly true that the Nams have been deported and they and the Danics are in the last throes of mutual extermination on the far side of this planet, leaving my people in peace and comfort. It is also true that I captured George on the satellite station. When he promised to bring you to my house, again he was not lying. It was and is my house, though I kept it on only as a trap for you. In the interim

I was offered better quarters here, at the heart of Murges, as you see."

"Why did he do it?" Hicks demanded. "We treated him fairly."

"So did I," said Drahk. "He owes nothing to you. Whereas I rescued him from the eternal darkness and gave him a home here in the sunlight. The Danics, you know, always thought of the Nam hemisphere as a paradise from which they were barred by fate. I promised George that if he would bring you, Magellan, to me, he would be the only Danic permitted to dwell in the sunlight for the rest of his life. I did not, by the way, hazard any guess as to the length of the term covered by the phrase 'the rest of his life'."

"You mean you'll kill him when it suits you," I said, coldly. "He's become as redundant as the other Danics."

"What I mean is my affair," said Drahk. "If anyone is redundant, it is you, Magellan. You did better than just bring yourself. You brought Prospero's spaceship. That is what I hoped for. I knew that you would look for it, believed you would learn its principles and come seeking me eventually. I merely added impetus to destiny and kept a grip on her guiding reins."

"Now I can erase you as a potential threat, and then lead my race in a vastly more rapid expansion through the universe. For, with Prospero's ship and others patterned on it, I shall no longer be a leader of the Makkees, but *the* leader. Beside such a prospect, Magellan, you are of no significance. You can join your beloved Sarah in oblivion."

I thought that over, then said: "Ambition should be made of brighter stuff. Neither I nor my friends know a thing about the principles behind Prospero's ship. We aren't scientists. Neither are you Makkees, in any real sense. You steal the inventions of races you doctored long ago, but your minds have become flabby through lack of effort, from over-indulgence in comfort, from a surfeit of stolen fruit. I doubt if you have a single creative scientist among you. You're just a great gnat-cloud of lazy parasites."

Gerry Cross said: "Right on the mark, Charles."

Drahk's silence seemed confirmation, also.

Presently, he said in his sibilant pipe: "At least, you know how the ship is navigated. That information will be something to start with. Now, I do not expect you to offer it for nothing. But, regarding bargaining, I must warn you not to believe any promise

I might make . . . except one. The Makkees have no equivalent to your word of honour, which is a purely sentimental conception."

"You're telling us nothing new," I said. "What is the one promise we're to believe?"

"The promise to torture you to death, slowly, and one by one, if you do not provide the information I ask. I shall keep you till last, Magellan. Can I expect a sensible reaction?"

"Get lost," I said.

"Completely," said Hicks.

"And don't come back," said Gerry.

Drahk reached for the visaphone, saying: "Very well, we shall do it the long, hard way." But the instrument anticipated him. A shrill Makkee voice spoke rapidly from it. Drahk answered briefly. Then he pressed a desk button.

"This may be good news for all of us," he said. "Despite your opinion, we have some very able scientists. A team has been at work on the ship for some hours now. They believe they have discovered enough to operate it. You may yet be spared torture—but not, of course, death."

The door opened and George came in. We glared at him and he regarded us without shame.

Drahk addressed him by some other name, in the Makkee tongue. George waved his hand in assent and accepted a paralysing ray-emitter which Drahk took from a drawer.

Drahk stood up, turning the visaphone to face us. "Your old friend, my servant here, will watch over you while I am absent a short time. Your legs will be useless for a long while yet, but do not even try to move. I know that you, Magellan, have some reputation as an escapologist. Do not try to add to it or George will ray you. In any case, I shall keep in contact by visaphone."

He walked to the door and there paused. "By the way, George is a Danic, not a Nam. They are as different as are Makkees and humans regarding one thing—conscience. Nams and humans have it. Danics and Makkees do not. So expect no repentance from George—it is not in his nature."

He shut the door behind him.

"All right," I said, "we're in a fix and it's my fault."

"Perfectly true," said Hicks. "But emulate George—don't waste time on repentance. Let's concentrate on getting unfixed."

Gerry said: "I presume Drahk's toolled off hopefully to the ship. D'you think they've really twigged how to work it?"

"I doubt it very much," I said. "They only think they have. It took Nunn and his team ten years, and they're brighter than most Makkees. Drahk will be back to get out the red-hot tongs and pincers."

Hicks shuddered. I looked at George. Drahk's chair was too small for him, and he was sitting in an untidy heap on the desk, ray-emitter in hand, watching and listening.

"There's our only hope," I said, nodding at him.

"George," said Hicks earnestly, "Drahk has already told us that he has no further use for you and will kill you soon."

George snuffled: "He said I undead here till dead. Ic."

"Exactly," I said. "I give you a week at the outside."

"I workic inside," said George, reprovingly. "Not week—strongic."

I groaned. "I can't take this. You parley with him, Hicks, in his own lingo. Tell him if he helps us to escape, we'll take him safely back to Earth with us. And that we keep our promises and the Makkees don't, because we have a conscience—he heard Drahk say that himself."

Hicks spoke rapidly in Vathicanese. George replied in the same language.

"H'm," was Hicks' sole comment, and he went silent.

"Well, what did he say?" I asked, impatiently.

Hicks cleared his throat. "This is a little awkward. He says he feels safer with Drahk, because Drahk is cleverer than you and knows what he's doing, and you're a fool and don't. He said Gerry and I followed you, and look where it got us."

Gerry laughed aloud.

"In short," said Hicks, "he reckons we're dead ducks."

"He may be right, on all counts," I said, gloomily. "All the same, he's a fool too."

Hicks shrugged. "He understands things better than he understands people, that's all."

The visaphone glowed. Drahk's narrow, dirty-yellow face appeared on it, and the black eyes scrutinised us. He said something in Makkee to George, and the Danic answered, probably confirming that everything was still under control. The screen went blank.

"Wonder where he's 'phoning from," said Gerry.

"Obviously a point near the ship," I said. "The house next door, maybe."

A couple of minutes went by, which I spent trying to think of a new approach to win George over.

Then there came a rumbling sound like a really big rocket starting to take off. It grew louder, became a roar. The whole building shook.

George flopped off the desk and stood uncertainly on the quaking floor. We looked at each other questioningly.

"Drakh's backroom boys blowing the ship apart?" shouted Gerry.

"Perhaps," I shouted back.

The heavy rumbling subsided, leaving a legacy of minor vibrations still thrilling our nerves, the chairs we sat on, the air itself.

George left the room faster than I'd ever seen him move.

"He's scared stiff," said Hicks, who knew him better than most.

"So am I," I said. My teeth were rattling. It might have been the shock waves or the funk I had admitted to.

"Look—through the window," said Gerry, suddenly. I looked, and saw nothing new or different. But Gerry and Hicks were a lot taller than me and could see something over the sill, beyond my line of sight.

Hicks whistled.

"What is it? I can't see," I said, sharply.

"The building across the street has collapsed," said Hicks. "I can see just a bit of another street with an enormous crack across it. A fissure—with a car hanging over the edge of it. We've just had an earthquake."

"Good," I said, viciously. "Hope the whole damn city comes down on the Makkees and buries 'em all."

Came another loud rumbling, herald of another shock. This time I thought my wish was about to be granted. Our building swayed like a sapling in a gale. But the shock passed, though networks of cracks covered the room's walls like climbing creeper.

To be caught in an earthquake was frightening at any time. But to be half-paralysed too, unable to gain the open ground, made our situation nightmarish.

I gripped the arms of my chair, because that was all there was to hang on to.

And in shambled George. He studied us, his ruby eyes burning in his chalk-white face, and said: "We go not-front to Earthic in your ship."

"Back to Earth!" I exclaimed, hope returning.

"I wonder why he changed his mind," muttered Hicks.

"Doesn't care for earthquakes, obviously," said Gerry.

George didn't wait to be cross-examined. He shoved his ray-emitter under his stringy belt, and lifted the bulky Gerry clean out of his chair in one heave, getting him across his shoulders in the fireman's hoist position. Plainly George was used to lifting heavy weights, despite his apparent flabbiness.

"I don't know where I'm going, but here I go," said Gerry, as George began carrying him from the room. They disappeared.

"Well," I said, "here's a turn up for the books."

"I always said George had good stuff in him," said Hicks.

"You think Drahk was wrong—he really has a conscience tucked away somewhere in all that blubber?"

"Could be."

Five minutes later, George returned and carried off Hicks in like fashion.

"I'm afraid he still doesn't rate you very highly," said Hicks, almost apologetically, as they reached the door. "Leaving the least valuable merchandise till last ."

His voice faded away somewhere outside. I sat waiting alone, not very happily wondering whether George would bother to collect me at all. Then I recalled I was the only one who knew how to set the dials in the ship. He'd have to come back.

How three cripples were going to recapture the ship, if and when we reached it, was a problem that could keep.

Suddenly, the visaphone came to life. A grim Drahk stared at me. "So you're still there. The earthquakes didn't——"

He broke off as he noticed the empty chairs flanking me.

"*Where are the others?*" His shrill voice rose almost to the ultra-sonic. He began calling the Makkee name he'd given George, and as if in answer, George came back. Drahk addressed him in a torrent of sibilant words. George took no notice, but came and lifted me.

As he carried me out, I looked back at the ugly little yellow face on the screen, and called: "I'll have my revenge, Drahk, and that's a promise I shall keep."

I saw the visaphone's light dim out. Then I was bobbing on George's shoulders along an empty corridor. He began climbing stairs with no slackening of effort. It was a long staircase. When we were almost at the top, the corridor below suddenly became



alive with agitated, hissing Makkees. They saw us and started in a mob for the stairs.

Drahk had switched his call and raised the alarm.

I reached and grabbed the ray-emitter from George's belt. I hadn't forgotten how to use one, and I sprayed the lower stairs and most of the corridor with the pale green rays. The Makkees went reeling back, stunned or unconscious.

George turned a corner and we came out on a flat, dazzling white roof in the warm sunshine. Four flying saucers were parked there, and there was plenty of space for more. As George carried me to the nearest, I looked over the low parapet and glimpsed several broken towers and much debris in the streets.

Then I was under the shallow dome of the saucer, with the sunlight beaming through the row of circular ports. On the thickly carpeted floor (for the Makkees, comfort was indispensable anywhere) lay Gerry and Hicks.

"Now we've got a fourth for bridge," said Hicks.

Gerry said: "What kept you, old man?"

I grinned as George laid me gently beside them. He shut the door and began throwing switches. TV screens sprang into pallid life in the bright interior. Already, I saw, we'd risen from the roof and were slanting away and up.

But also I saw Makkees pouring out on to that roof towards the other saucers.

"Don't look now," I said, "but we're being followed. Lord, I wish I had the use of my legs!"

George, who hadn't said a word since his surprising volte-face, wasn't missing a trick. He juggled with peculiar swivelling levers, and suddenly a white-hot dart shot from the side of our ship and speared the centre saucer on the roof. It was pushed clear through the far parapet and disappeared, throwing off incandescent flame.

"Bullseye!" Gerry crowed.

There was confusion on the roof, which fell rapidly away from us, becoming smaller than a lady's handkerchief. Then we levelled off, following the bee-line of the glittering monorails. These, I knew, led to the area in which we had landed on Vathic. Soon we saw the ship, looking like a black snooker ball among the white sugar cubes of the little detached houses.

"This," I said, "is where the tricky part begins."

It was, though hardly in the way I expected.

From directly out of the sun, where it had been hovering and waiting for us, a flying saucer came diving like a gannet at us.

George attempted evasive action but was too late. The other saucer cracked us on the side, a glancing blow but with plenty of ergs in it. The crash deafened us and we were thrown about like bales of hay. Despite the soft furnishings, we collected some bruises.

The boneless wonder, George, took it in his stride and was promptly back at the controls. The ship regained an even keel but a sizable dent bulged towards us inside and bits of broken things lay around the carpet. Some of them were parts of the dart-firing mechanism, so we were disarmed.

"Gosh, that was a beautiful cannon!" muttered Gerry, rubbing his head.

"Drahk," remarked George, breaking his vow of silence. Doubtless he knew Drahk's own saucer well enough. The Makkee leader had acted with typical speed and foresight, taking off directly he'd given the alarm and waiting like a hawk to pounce.

"Look," said Hicks, pointing at one of the screens. It showed Murges with flying saucers rising from it like a flock of startled pigeons.

"The hunt's on," I said. "No good trying to reach our ship now. They'd blow it and us into the ground before I'd scarcely begun to set the dials. Beat, George, as fast as you can."

Whether he understood or not, George did just that. Drahk's saucer was wheeling round for another stab at us, but George sent our battered ship hurtling beneath it, heading for the strange horizon, but dropping ever closer to the ground.

In a couple of minutes we were hedge-hopping at dizzying speed. Drahk's saucer was following behind and above us, but it dared not dive-bomb us again without the risk of plunging into the ground.

"It's Drahk, all right, or that thing would be firing at us," I said. "He wants to force us down, but he doesn't want to blow us to pieces, because that would destroy our knowledge of Prospero's ship. And he needs that above all else. He wants us alive—half alive, anyway."

We were now travelling at supersonic speed, but George accelerated more and more.

"I think we're showing them our heels," said Hicks, suddenly. I agreed: Drahk's saucer was falling slowly behind. The others were but dots in the distance—we'd had too much start on them.

"He probably bent his own works somewhat when he side-swiped us," Gerry observed.

We sped on, ever faster. The sun was moving down the sky behind us towards its setting. Presently, when it set, we should be entering the twilight zone between Nam and Danic country.

We debated whether we should drive on into the cover of night or skirt along the zone for some distance, turn, and try to outflank our pursuers back to the ship.

I said: "Neither course promises much. Darkness is doubtful cover. The Makkees can see in the dark. Anyhow, they can see us as clearly on their radar sets as we can see them."

I indicated the screen with its scattering of blips.

Hicks said: "Radar wouldn't help them if we landed, especially in rough country. If we came down in a valley or a forest, the odds would probably be against them spotting us visually in thousands of square miles."

"True," I said, thoughtfully. "I'm for going on. Radar would certainly give us away if we tried to double back round them. By the way, does either of you feel anything—bodily, I mean?"

"Yes, I feel sort of heavy," said Hicks. "My arms feel like lead. Tiredness, maybe."

"I feel damned hungry," remarked Gerry. "And heavy, as you say."

"I feel both those things . . . and more," I said. "I'm beginning to feel my toes again. They're tingling and I can wriggle them. The drug's wearing off."

"The last shall be first . . ." said Hicks. "I can't feel a thing."

But presently he did, and so did Gerry. The paradox was that as our muscles grew stronger, our legs became more of an effort to move.

"What is it?" asked Hicks, frowning. "Another Makkee trick?"

"I don't know," I said. "But it's getting steadily worse."

The sun sank from view and we flew into thickening dusk. George pointed to the dark horizon. "Is the heavy side."

I thought for the moment he was referring to something akin to the Heaviside Layer, but Hicks said: "The heavy side . . . that's what he calls the dark side sometimes . . . By heavens, I don't think it's a translator mix up at all! Everything is getting heavier as we travel in this direction. Somehow gravity must be more intense on the dark side of Vathic."

I rubbed my chin, with difficulty. "I think you're right, although I can't understand it. Gravity is related to mass. Therefore, the mass must be greater on one side of the globe than the other. That would put the planet in a state of imbalance. It would revolve eccentrically and eventually, perhaps, disrupt. But we know Vathic has come to rest with one face turned towards its sun the wrong face, as I see it. Surely the heavier side should be innermost, mass attracting mass?"

Gerry said: "No comment. Not my line of country."

Hicks said: "You're assuming a couple of things, one of which is certainly wrong. First, that Vathic has come to rest. I think it has, but only in a temporary, misleading sense. 'Temporary', astronomically speaking, is a relative term—it can mean ages.

"Superficially, Vathic may appear at rest, but its inner forces centrifugal, centripetal must be in a state of imbalance. The earthquakes point to that. Without knowing cosmic history in these parts, we can't say what caused the imbalance in the first place. Perhaps disturbance by a wandering heavenly body of the asteroid type. Or just the stresses of the Alpha and Proxima Centauri system I wouldn't know about that."

All the same, your knowledge confounds me," I said. "What was my other false assumption?"

"That Vathic is a globe. Actually, it's an ovoid."

"Eggic," said George, suddenly, without taking his eyes from the dimming, scudding landscape. "The yolkic is unchased."

At least, that's what is sounded like.

We stared at him. "The yolk of the egg is not chased," I said, attempting translation. "It still makes no sense."

"Not chased, unchased," Hicks muttered. He lifted his hand to hold his forehead, found it too much of a strain and dropped it. He pondered. "I get it. He said 'unchaste.' Meaning 'loose.' The yolk of the egg is loose. He means the heavy core of Vathic has become detached, it's loose inside the outer shell, on the rampage. It's distorted the shape of the planet."

George made a gesture of assent. "Soonic hatch," he added.

"Good lord, does he mean it'll soon burst out of the shell?" said Gerry.

"Yes," said George, answering for himself. "Nams warnic longic time. We go to Earthic."

Hicks questioned him in Vathicanese, and seemed to be answered in detail.

He told us: "George is no fool about material matters. When the earthquakes started, he knew it was the beginning of the final crack-up and was plenty scared. The Nams had warned the Danics that it would probably happen sometime in the indeterminate future, and that earthquakes would be the first sign of it.

"Hence George's sudden change of heart, if you can call it that. Drahk was right: George is all for himself."

"Beats me that the Makkces didn't realise the state of things," I said.

Hicks said: "Their scientists aren't all that bright you said so yourself. Besides, it wasn't their original intention to settle here. It was unexpectedly forced on them. Probably, they'd made no thorough survey of the planet."

"Well, they're stuck with it now," I said, as heartlessly as any Makkee. And added more soberly: "So are we unless we can get back to that ship."

The darkness and the gravitational drag had both been increasing steadily, and rather depressingly, at any rate for me.

George was unaffected: this was his home-ground, even if he did prefer Nam-land. I understood now his easy handling of heavy weights, his bouncing walk in a weaker gravitational field. His flexible bodily construction, too, was doubtless nature's way of coping with the bone-crushing hug of gravitation.

It literally floored us. We lay on the carpet, scarcely able to stir, although the strength was returning to our legs.

Drahk's saucer was so far behind now that we couldn't identify it among the cluster of tiny blips representing the pursuers.

Our saucer began to decelerate. George had seen a likely refuge. We could see little as the ship landed in darkness, but there was a lot of bumpy manœuvring. Then we were at rest, and through the ports I could see black branches and black leaves, vaguely silhouetted against a moonless, starry sky.

George opened the door and disappeared into the silent night.

"Where's he gone?" asked Gerry.

We didn't know, and we certainly couldn't follow. We were pinned to what now seemed an iron-hard carpet by the excessive gravitation.

Presently, George returned with bunches of fruit he'd gathered. They were like grapes, but as big as plums, and very sweet. We ate them avidly and felt more cheerful: hunger was one depressant overcome.

Hicks had another conversation with the Danic, and reported on it.

"George adopted my suggestion. The saucer is largely concealed under trees near the bottom of a wooded valley. He says we must wait here for four and a half Earth hours. If the Makkees don't find us soon, they will have to give up the chase, because their feeble bodies can't stand the gravitation even as well as ours. If we can outlast them, George says our chances are good. He has a plan for getting us all back to Prospero's ship."

"What plan?" I asked.

"He won't say. He fears if he tells you, you may steal the plan and abandon him here. He wants to make sure of coming with us."

"Doesn't trust anyone, does he? Why the precise figure of four and a half hours? Surely we can leave as soon as the Makkees have gone?"

"I don't know any more than you do," said Hicks.

Gerry said: "Whatever the plan is, we've still got to fly back to Nam-land. Apart from the impossible distance, we can't walk two steps under this gravitation. And the moment we show our noses over the horizon of Nam-land, the Makkee radar will pick up our saucer. We'll only be back where we started."

"We can only wait and see," said Hicks, rather irritably.

So we waited. Our eyes grew more accustomed to the starlight, but we could still see very little. The valley walled us in, the trees were thick around us. We could see a few patches of the night sky, and that was about all.

All continued silent. For a time. Then came a rumbling, distant at first, then coming nearer. The ground trembled slightly.

Gerry coughed nervously. "Another 'quake!"

Yes, I thought, fear and depression returning, with us just as unable to move as before.

But George said: "Notic 'quake."

He turned the TV cameras this way and that, and finally focussed them on the valley floor perhaps a hundred feet below us it was difficult to judge. A bright, uncertain light was approaching along it. It seemed to be the source of the rumbling and the earth tremors.

"Thinkic Nam war machine," said George.

"Then the war isn't over yet?" I said, in surprise.

Nobody answered because now we could see the thing itself. It was like a great headless tortoise, crawling deviously among the

trees, avoiding the bigger ones, bull-dozing the slighter ones. A searchlight beam quested restlessly from its forepart.

George said something quietly to Hicks, who passed it on to us. "It's a sort of tank, thickly armoured. Doubtless carries armament. The Nams suffer from the gravitation as much as we do—they can only move around in these things, at least, on ground level. If it detects us, it'll probably attack us."

"Thanks a lot," I whispered, as though the Nams might overhear me. And lay watching, helplessly.

The cumbersome vehicle came abreast of us, and was grinding past apparently without spotting us when suddenly it stopped. The roaring ceased at once and the searchlight snapped out.

We drew in our breath.

"If it's going to park here, we're sunk," said Gerry, *sotto voce*.

George said: "Nottic park. It seenic something."

It was almost a major feat to cross my fingers, but I managed it.

We waited suspensefully, expecting a thunderbolt to strike us at any moment.

Then Hicks said, quietly: "Look up—overhead."

We looked. A dark shape, familiar merely in silhouette, was circling and re-crossing the patches of sky. A Makkee saucer, only a few hundred feet up, apparently scenting our presence.

But we never knew for sure. Something rose with a terrific buzz from the Nam war machine and sped towards the saucer. Something like a flying torpedo.

There was a bright explosion in the sky, and the saucer—a ragged shape now—came dropping like a stone. The ground shook again as the stricken saucer landed somewhere up near the lip of the valley.

"That was a guided missile," Hicks murmured.

"And it was probably Drahk on the receiving end," I said. "Poetic justice. He started the war."

Almost immediately, the war machine started up again, and moved on along the valley floor, the searchlight playing among the trees ahead of it.

George waited until the sound of its passage had died in the distance, then went outside again. He was away some time. When he returned, he said: "Makkee saucer. All deadic. Notic Drahk his saucer. Another."

"Too bad," I said.

Presently, it became lighter—a weak sort of moonlight was

spreading. We guessed that that was actually what it was: the artificial moon was rising.

The hours dragged on, and we talked little. Even moving one's jaw was an effort here.

At last, the tiny moon became visible overhead. It looked like a nova among the lesser stars.

George said: "We go."

He backed the saucer from its hiding place, and soon we were high above the trees, rising swiftly vertically. The saucer seemed unaffected by the gravitation, but the effect of the upward acceleration against it was murderous on us.

The blood drained from our eyes, from our frontal lobes, and we passed into unconsciousness.

When we came round, we were floating freely like balloons in the interior of the saucer. On one side of us was blackness, tintured with millions of untwinkling stars. On the other side—just blackness.

I felt sick and confused with these sudden changes in our conditions, and only dimly apprehended Hicks' explanation presently, by courtesy of George.

We were stationed behind the great mirror of the artificial moon, within its black shadow. And we were falling in orbit with it around Vathic.

This was George's plan: to use the shelter of his one-time home in space to return to the sky over Nam, undetected, undetectable. Naturally, the satellite station (now unmanned) showed up on Makkee radar screens, but it was and would be treated with the contempt of familiarity.

"As you so often said, Hicks, George is no fool in some respects," I said.

George, from long experience, knew our position precisely from hour to hour. Directly we reached a calculated point in the orbit, he planned to plummet the saucer straight down to Murges, at top speed. The chances of detection remained, but were much slendrer, and we had to gamble upon reaching Prospero's ship before the Makkees had time to do much about it.

The moment came—and we plunged down towards Murges. Or, rather, what had been Murges. For another earthquake had struck, and Murges was only one of several towns in flaming ruins.

The Makkees had more to concern themselves with than watching radar screens.

And we had more to concern ourselves about than just the



Makkees. Had the new 'quake destroyed or damaged Prospero's ship? If so, we were finished.

But we saw it, looking as black and solid as ever, among the now broken and irregular remains of the little houses. The ground had risen in waves around it and great fissures had split the area.

Not a Makkee was in sight as we landed on the spoiled lawn beside the ship. I staggered out first on unsteady legs. I had the ray-emitter in my fist—just in case. The others followed close.

I yanked open the door of the ship and stepped in. There was one solitary Makkee within, working at the dials.

He turned. It was Drahk.

"From whence all but he had fled," I quoted, sardonically, covering him with the emitter.

He stood very still, looking at me and the others crowding in behind me.

"I see you have kept your promise, Magellan. You have come for your revenge."

The reedy voice held no more emotion than artificial speech concocted from electronic wave patterns.

"Obviously," I said. "Be kind enough to step outside."

"Very well."

We stood aside to let him through, then followed him out like an execution party. I whispered something to Hicks and he conveyed my message to George. George climbed back into the flying saucer.

Drahk ignored him and everyone save me. Watching me closely, he said: "My stupid and craven scientists have let me down badly. Prospero's ship baffled them, it defeats me. You have won another victory, Magellan. You can make it the greatest victory in the history of your race, if you are wise enough to spare my life."

"I'm listening, and disbelieving everything you say, Drahk. Go on."

"With this ship and its like your people can gain the whole universe from the Makkees. But not in your life-time, Magellan, without my help, because you wouldn't know where to start. You don't know what planets the Makkees occupy, where the key-points are, what strategy will succeed against them. I do. I can tell you everything you need to know. In exchange for my life."

"You miserable traitor," I said.

Drahk said: "You will never understand the Makkees. You need a corrective, like myself, to your sentimentalism. Any Makkee would do as I am doing. I told you before, we do not share your sense of honour. Our allegiance is only to success, the winning side."

"It won't wash," I said. "You already condemned yourself when you told me not to believe any of your promises except your promise to kill me. That's all I can believe. We'll take on the rest of your kind in our own way in our own time. Whether I'm alive or dead then doesn't matter a damn. At least, I can make a start."

"Kill me, then, you foolish human."

George emerged from the flying saucer. I motioned him and the others back into Prospero's ship. I followed, turning and pausing at the door.

A deep rumbling sounded from somewhere beyond ruined Murges, another death-cry from doomed Vathic.

"You chose to seize this planet," I said. "I shall leave you with your spoils. Goodbye, Drahk."

He said: "It may not be goodbye—yet."

He turned, began walking to the flying saucer. Before he could reach it, it rose, its door still open, and soared away in the sunlight. George had set the delayed action self-starter, as I had instructed.

The defeated Drahk stood watching it go. He looked such a small, forlorn figure against the spread of wreckage that I felt almost a pang of pity. Then I recalled all the suffering he had caused on Vathic and elsewhere, and realised that his gibes at my sentimentalism hadn't entirely lacked justification.

I slammed the door on him and on Vathic, and turned my attention to the dials.

So we returned to solid, placid Earth.

And now I sit here and wonder whether I should be right to impose my own restlessness on my fellow men and lead the crusade against the Makkees. Or whether to leave them in peace, to nourish their souls in their new cultures.

The Napoleons, and would-be Napoleons, are born with this problem as much a part of them as their hearts and lungs. Only, some have more conscience than others.

**WILLIAM F. TEMPLE**



# Seven Days to Nowhere

By JOHN NEWMAN

*Just how soon will it be possible to send a human being into space? In this article a well-known scientific expert discusses some of the experiments being conducted on both men and animals to ascertain the probable physical and mental reactions of the crew aboard a spacegoing vessel*

Only in 1954 did scientists of the United States Air Force realise that inevitably American expansion must include deep space; that the title of the USAF was now out of date, and that finally official minds must start to think along the lines of ideas well-beaten out by the readers and writers of scientific and imaginative literature.

They realised they would have to determine the many factors that would enable pilots to live in the hostile environment of space. So they built vacuum chambers and improved their centrifuges, and they constructed a mock spaceship cabin to duplicate future crew conditions, bearing in mind that they did not know what those conditions would be.

With the launching of the sputniks, Russia proclaimed to the world that she had something of a lead over the US in the matter of rockets. A comment not without value from an American scientist that the Russians had to use large satellites because they don't have the know-how in miniaturised electronics, is very applicable to the

current crop of satellites; but sheer mass-lifting power is going to be of supreme value when it comes to sending personnel into space. Just as the USSR surprised the world with their sputniks, they could just as easily spring fresh surprises in the field of research into conditions for human life in space.

Apart from scanty news releases, very little is known from either side about their man-carrying rocket plans. But the Americans had made public a considerable amount of detail about their work to find out the problems and, until the questions are known, scientists cannot start work on finding the answers.

At the Randolph Air Force Base in Texas, work went on with the mock space cabin; but news was scarce—until February, 1958. Then much of the work on questions was revealed—and some of the answers were brought to light.

In a blaze of publicity, the US Air Force announced that it had successfully carried through an imaginary seven day trip to the Moon—with one human crewman.

The guinea pig was a relatively untrained, 23-year-old airman named Donald Farrel, who was happy to help in an experiment simulating many of the conditions expected to be met with on a lunar trip—so he said. We do not know how many previous tests had enabled the space doctors to determine what they thought were the best means of combating mental fatigue in isolation, together with the effects of a synthetic atmosphere and the problems of pre-packaged meals, air regeneration and waste disposal in a sealed system.

Farrel was picked for his lack of nervous temperament and freedom from claustrophobic tendencies (although there was an amusing—and illuminating—joker in his marital status which was ferreted out after the tests were complete)—and he succeeded in surviving the week without a serious emotional breakdown.

But, of course, he was not subjected to the main problems of space flight; high G during take-off, zero G weightlessness in orbit, cosmic rays and the intense, deep feeling of isolation that will beset any who venture beyond our atmosphere, all these hazards were absent.

These tests must inevitably be of tremendous fascination to anyone who has studied and dreamed of man's conquest of space. Here, with all the force of government and service, men are actually working out what it will be like in space, and are spending months of time and millions of dollars in practising for the future. One is irresistibly reminded of the Romans, practising how to row a

trireme on the sands whilst their comrades worked night and day to build the fleet.

The team of scientists in the Department of Space Medicine and Physiology and Biophysics at Randolph had long planned such large-scale mock tests, checking every variable and interrelated condition that might affect the health and ability and morale of space pilots.

Animals were first used; mice and rats were subjected to high and low temperatures as they were gradually acclimatised to air pressures similar to those found on 3 and 4 mile high mountains. Supervisor Dr. Clamann carried out many low pressure tests on himself to check his theories and prove that man could live under half-way-to-space conditions.

On general principles, the space doctors decided on low pressure conditions for spaceships and high altitude aircraft and the gondolas of balloons. Low internal pressure meant that less oxygen would be needed to fill the cabin, explosive decompression would be less disastrous, relatively speaking, meteor punctures would leak less rapidly and the walls of the cabin would not need to be overly thick or heavily braced to withstand the internal pressure.

Air at one atmosphere pressure containing 21 per cent. oxygen has the same effective oxygen pressure as pure oxygen at one-fifth of an atmosphere. But pure oxygen was known to have queer physiological effects. At the other extreme of pressure, divers knew all about the hazards of oxygen under pressure, and now it was known that under this lessened pressure oxygen could act as a slow poison. Premature babies in pure oxygen incubators had become incurably blind. Dr. Clamann's assistant developed pneumonia after three days in pure oxygen at a pressure equivalent to a height of five miles. It was also discovered that electric motors easily burst into flames in pure oxygen, and wiring insulation burned fiercely.

Other studies showed that continuous exposure to low air pressures, as at three and a half miles up in the Andes, results in large chest expansions, a high red corpuscle count and a far higher volume of blood than in people living at sea level.

Dogs kept at pressures equivalent to a height of four miles became sterile for two years. Slowly, their bodies acclimatised, but, even then, their first puppies died—although later ones will survive, judging by the experience of Andean colonists. Adaptation to low pressure is a slow process, taking whole generations before it is truly effective.

The scientists decided that half atmosphere pressure, that found

at three and a half miles up, with oxygen enriched to 42 per cent, was a reasonable compromise for high altitude and space flight. So Farrel breathed such an oxygen enriched, low pressure mixture for his seven days' static journey and showed no ill effects. An air conditioning unit removed excess moisture, cooled the atmosphere and cleaned the air of smells by passing the nitrogen/oxygen mixture through active charcoal granules such as were used in wartime gas-masks. Farrel did not wear an altitude suit or helmet.

This brings up the academic point—are these artificial breathable mixtures to be called air? Or is air only the gaseous mixture found freely on Earth? Call it holpair—or hilo air.

Although he was isolated from all human voices except his own, he had no privacy. A television camera watched every move and the necessary bright lighting never dimmed to give him the impression of night once during the week. Wearing sun-glasses to combat the brilliance of his metal chamber, he lived an artificial 14-hour day—a day in which there were  $4\frac{1}{2}$  hours of sleep, 8 hours of work and  $1\frac{1}{2}$  hours for food and relaxation.

His work consisted of obeying the instructions indicated by a board of command lights and solving problems set up on radar screens, two of which had to be matched by altering their controls. His comments on his feelings, together with data on his environment were tape recorded for later study. Electrodes strapped to his body monitored his heart beats and his breathing, whilst other instruments measured the temperature and humidity of his surroundings. Even all his waste was stored ready for measurements and analysis at the end of this space trip rehearsal.

The cabin measured a scant 3 feet by 6 feet by 5 feet high and much of its internal space was taken up by instruments. In spite of his inability to exercise himself and the fact that he ate more than was expected, Farrel lost five pounds weight during the week. He had a fine selection of pre-packed meals: ham, lobster, chicken and other delicacies, and he ate 3,400 calories a day instead of his normal 2,500, probably because of the nervous tension inherent in the test.

His only relaxation was recorded music piped in from outside. After five days his interest began to lag, it was difficult for the alarm to awaken him and he made errors in his tracking problems.

But he lasted the week without being "rescued".

Life will be a lot tougher than this for the first Moon traveller. Farrel had a plentiful supply of water with him; but the first space-

man will have to be strictly rationed. Too, Farrel had no worries, subconscious or otherwise, about the possibility of a meteor penetrating the hull and puncturing the cabin, or of cosmic rays sterilising him and giving him a dose of radiation poisoning with all its ill side effects—or any of the fears that his spaceship would not function correctly.

Also, Farrel had none of the physical unpleasantness associated with the necessary high-G take-off, which the recordings from Laika show to be more unbearable even than weightlessness. Most important of all, Farrel knew that it was a test. There was no sense of being entirely cut-off, of having left humanity behind, of being the sole spark of life adrift in the immensity of space. He knew that any abnormal behaviour on his part would send an emergency team bursting in to rescue him.

The question might have arisen, was this dry run a precursor to Farrel being the first man in the Moon? But it seems reasonable to suppose that they will stick to their precept of selecting unmarried and unentangled men for the task. Although this does bring out the point that a married man may be a better risk for spaceflight than a bachelor. This is one of the delicate subjects that will no doubt receive a thorough going-over prior to the first moon-trips. It seems fairly positive, though, that this week-long trip to nowhere was in the way of being a polishing up of their testing techniques prior to selecting the candidates for Moonshot One.

Much of what was learnt is still classified. But to those with the exploration of space at heart, the writing is plain to see. No longer is the challenge of space merely a dream; solid hard work is going into finding ways and means of getting men into space, and then of putting them down on the Moon; and this still holds true if the cynical view is taken that all this trip was merely a stunt to grab publicity for the U.S. Air Force in this space age.

Perhaps the first space pilot is even now sweating out his week in the cabin in the basement of a laboratory on the Randolph Space Force Base.





*New Hard-Cover Science Fiction Reviewed by*

KENNETH F. SLATER

I have just completed for my files my preliminary listing of new "betweenboards" s-f and associated titles published in Britain during 1958. At the time of writing the new year is only six days old, and my list has to be vetted, and possibly added to, before I'll be satisfied with it as a complete account. As a situation for s-f publishing I'll remain dissatisfied even if I add another half-as-many-again titles to it.

The grand total of "betweenboards" publications comes to 39, and to be interested in more than half of them you need to be a very rabid fanatic. Fifteen of the titles are new editions or impressions of books already published in Britain—and include such items of purely borderline collector's interest as *THE BEGUM'S FORTUNE* by Jules Verne (Harrison, Fitzroy edition, 12/6), Sax Rohmer's *SINISTER MADONNA* (Jenkins, 6/-) and Dennis Wheatley's *THE KA OF GIFFORD HILARY* (Hutchinson, 8/6). Three of these reprints and one new title are primarily in the "supernatural" field, the new title being the Elliot O'Donnell collection of ghost

yarns, *TREES OF GHOSTLY DREAD* (Rider, 18/-).

From the U.S.A. there are at least six titles reprinted in British editions (there may be a couple of others, but I've yet to make certain) which include of real interest Isaac Asimov's *THE NAKED SUN* (M. Joseph, 13/6), David Duncan's *OCCAM'S RAZOR* (Gollancz, 12/6), *DOUBLE STAR* by Robert Heinlein (M. Joseph, 13/6) and the Simak collection *STRANGERS IN THE UNIVERSE* (Faber, 15/-).

Which, you'll appreciate, does not leave much which can be called "original". There was Brian Aldiss's *NON-STOP* (Faber, 15/-), John Bowen's satirical *AFTER THE RAIN* (Faber, 15/-) and the anthology edited by Edmund Crispin, *BEST SF THREE* (Faber, 15/-). Two titles by Ronald Fraser, *A VISIT TO VENUS* and *JUPITER IN THE CHAIR*, both from Jonathan Cape at 15/- each. Mervyn Jones' *ON THE LAST DAY* (Cape, 15/-) and Charles Eric Maine's *THE TIDE WENT OUT* (Hodder, 12/6)—although this had already been printed in a U.S. magazine and



so doesn't really count as "original".

Add to those Roger Manvell's weird yarn **THE DREAMERS** (Gollancz, 12/6) and Gilbert Phelps very borderline **THE CENTENARIANS** (Heinemann, 15/-) and the list of original material is about completed. There are some others, but they are even closer to that undefined borderline than the last two mentioned.

For the fantasy enthusiast there have been three worthwhile titles: T. H. White's part-reprint, part-original **THE ONCE AND FUTURE KING** (Collins, 25/-), Jane Gaskell's pre-history novel **KING'S DAUGHTER** (Hutchinson, 15/-) which might have some appeal to Robert E. Howard readers and last but not least John Collier's collection of short yarns, **PICTURES IN THE FIRE** Hart-Davis, 13/6).

This latter title is the third in the "Uniform Edition" of John Collier's works being published by Hart-Davis, and it has 23 stories in 190 pages, a veritable feast for those who delight in Collier's wit and oddity. The majority of the tales have an element of fantasy; exceptions being "Back for Christmas", "Little Memento", and "And Who, With Eden . . ." which deserve special mention. Collier fans will probably know the first—I think it has appeared in several magazines—as the story of how, by purest misfortune, a murderer came unstuck. The second in five pages runs through the themes of adultery, the oddity of the collector's instinct and murder—a positive gem of a story. The last mentioned is

longer and simpler but more fully developed, with some of those involutions which are characteristic of Collier's best short stories. For straight fantasy the first story in the book, "Interpretation of a Dream", requires some beating. Full of morbid horror, it is written in an (apparently) off-hand and light-hearted fashion which serves to intensify the ultimate terror. "The Steel Cat" borders on s-f theme, the "better mouse-trap", and without stepping into either the s-f or fantasy field demonstrates an oft-recurring idea of this theme. "Spring Fever" is perhaps the closest-to-s-f story in the book, whilst the title story of the book introduces one of Collier's prime characters of fantasy, in a new guise. Old Nick a show promoter! Highly recommended for your book-shelves, to be taken in small doses to relieve boredom.

But despite such high peaks as this, and a few others of the titles listed above, 1958 cannot be called a good year, for the enthusiast who likes to line his shelves with well-bound, stiff-covered books he can read and re-read.

Telephone DENTON 2940

## EDNA HANSON

*Social Service and Marriage Bureau*

**LONELINESS—Pen & Personal Friendships.  
Marriage Partners. All districts and ages.  
Write for Brochure with actual photos.**

**ALWAYS AT YOUR SERVICE**

**591 Manchester Road, Denton  
Nr. MANCHESTER**

# BOB MADLE'S SF American Letter

By Airmail from the U.S.A.

Nebula's own Forrest J. Ackerman has struck pay dirt! Last year he compiled the first issue of *Famous Monsters of Filmland*, a publication replete with photographic stills and information pertaining to fantasy and science fiction films of the past and present. The first issue sold more than 100,000 copies, so goes the rumour, and a second issue is doing even better. (I am informed that 20,000 copies have also been distributed in Great Britain.)

Forry has been known for many years at Mr. Science-Fiction. As far back as 1932 Forry was writing articles on scientific films for the first and almost legendary, fan magazine, *The Time Traveller*. Since then Forry's scientific columns have appeared in scores of publications and his knowledge of this facet of the science fiction field has increased to such an extent that he is, without a doubt, the last word when it comes to s-f movies.

Little did Forry realize, however, that he would uncash a Frankensteinian monster on the world when he tapped his almost unlimited source of s-f movie information. No sooner were the circulation figures of his first issue released than other segments of the publishing world,

always quick to jump in when it appears that a fast buck can be made, flooded the market with imitations. As a consequence, American news stands are now buckling under with such titles as *Monster Parade*, *Monsters and Things*, *World Famous Creatures* and *Shock Tales*. To make matters worse, one rather reputable s-f magazine (*Super Science Fiction*) has come out with a "Special Monster Issue"! I hope this isn't the beginning of a trend for wouldn't it be horrible to visit your favourite news stand and purchase a copy of *Nebula Monster Fiction*!

"First Fandom is not dead!" So says the slogan of science fiction's newest organization, known as *First Fandom*. What, some of you may ask, is First Fandom—or what is *any* fandom for that matter? Well, briefly, s-f historians of the present have studied in vivid detail the entire past of science fiction fandom. The results of these studies have indicated definite eras—or fandoms—that have existed for several years at a time. Consequently, it has been determined that fandom really organized about the end of 1929. This was First Fandom (although they who comprised it were not aware

of this, of course) and this era of fandom has displayed itself to be the lengthiest, extending until circa 1937. (Some will debate this and say it ended in 1935 or 1936, but it is all a matter of conjecture. Jack Speer, of California, originally conceived of and separated science fiction fandom into definite segments of history. Jack, incidentally, was elected to the California State Legislature during the recent Democratic landslide—although this fact has little to do with eras of fandom).

Which brings us back to the organization known as *First Fandom*. It is the brain-child of a group of fans consisting of C. L. Barrett, M.D., Don Ford, Lynn Hickman, Bob Madle, Lou Tabakow. It is a fun-loving organization like the Shriners and Cooties. And *First Fandom* is for the old-timers. The date of December 31, 1937 has arbitrarily been made the cut-off date. Anyone who can show any connection with any aspect of science fiction fandom prior to that date is eligible for membership.

*First Fandom* offers the old-timer a chance to contact old friends again. Also, it offers the old-time fan an opportunity to get back into the field again. Often a fan drifts away into mundane existence. It is a known fact that, in numerous instances, he retains his interest in science fiction—but feels that he would be lost if he attended a convention, or visited the old science fiction club again. Perhaps if the old-time fan *does* attend a convention he leaves early, never to return again.

It is planned for *First Fandom*

to have a club bulletin (primarily to maintain an up-to-date roster of members); a membership card and an insignia patch will be issued; every world convention will have a special *First Fandom* "meeting"; it is hoped, *First Fandom* will become one of the most useful and influential organizations ever to appear on the s-f scene. Anyone interested is invited to write to Don Ford, Box 19-T, RR 2, Loveland, Ohio for further information.

Arthur C. Clarke (another *First Fandom* potential) has been on a whirlwind American speaking tour during the early months of 1959. His subject has, of course, been space travel and satellites. One of the groups he spoke to consisted of 1,200 women! (Indianapolis, Indiana Town Hall Meeting, January 23). Arthur informed me during his stop-over in Indianapolis that he will be going to Ceylon for two years after the completion of his current speaking tour . . . E.E. "Doc" Smith has sold his latest science fiction novel to the magazine that published his very first ("The Skylark of Space") more than thirty years ago, *Amazing Stories* . . . The recent depression in the American s-f market has not only killed off about a dozen publications, but also leaves only three science fiction fan columns. It is interesting to note that two of them are in NEBULA . . . Jim Harmon, who has had stories in the various magazines on a rather slim basis during the past several years recently hit a bonanza when he sold two to *Galaxy* and one to *Amazing* in a period of two weeks.



WALTER WILLIS writes for you—

Did it ever occur to you how wantonly destructive some science fiction authors are? I'm not thinking of people like Edmond Hamilton, who used to be nicknamed "World-wrecker Ed" because he used up planets the way some authors use up cigarettes or Micky Spillane blondes, but the ordinary pulp-type authors who like to finish their stories with the hero and heroine clinging to each other amid the ruins of every other element in the plot. The earliest example of this kind of thing I can think of is Verne's *Twenty Thousand Leagues under the Sea*, but there have been all too many lesser instances since. The mad scientist blown up with his laboratory, the man-eating orchid incinerated with the conservatory, the djinn bottle dropped back into the sea, the Secret Formula put in the fire, the strange machine battered to fragments and generally everything reverting to how it was when the story started, except that the author is a few pounds richer.

Well, I can see one reason for this, which is that a nice big bang is an easy way of ending a story. Probably the author, with the wild optimism of his profession (Motto: "After Youd!"),

has his eyes on the film rights of his story and realises that a big bang not only looks well in technicolour but wakens up the patrons in time for them to buy ice cream. Thus endearing him to the cinema industry, which nowadays has to fall back on such frozen assets; it is in the Lyons' den with its back to the Walls, as you might say. But I wonder if even this is psychologically sound. I'm sure the reaction of my subconscious to the destruction of Captain Nemo's wonderful palace, with all its treasures and inventions, was that after all that waste things were going to be tough all over and I'd better save my money.

But I think there's more to it than that. I suspect the authors like blowing things up because they don't really approve of science and imagination. For one thing they're so obviously smug about what's happening, right from the start. Most of them belong to what I think of as the "hadibut" school of writing. They keep downing tools and breathing plaintive remarks in your face starting with "Had I but . . ." You can see rightaway that whatever the invention or discovery is, the author is determined that no good shall come of

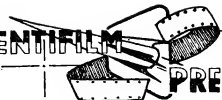
it. Suppose the scientist invents, say, a new can opener. He's hardly started twiddling the rheostats before he's making with the hadibuts. "Had I but known what I do now, I'd never have done what I did." And his fiancée isn't any better, with that confounded feminine intuition of hers: "It is evil, John, evil!" Even the little dog backs away, growling, so that the audience can nod sagely to itself and do their impression of Hilda Baker to each other. Worst of all is the kindly old father with his wise old "There - are - secrets - into - which - Man - is - not - meant - to - pry" routine.

Well, after all this you can pretty well write the rest of the story yourself. The scientist, too drunk with power to heed the warnings of his fiancée, father, dog or the little boys in the front row of the stalls, keeps feeding the super-scientific can opener with bigger and bigger cans until one terrible night it is struck by lightning and runs amok. It starts opening everything, including people. The police are called in, followed in breathless succession by the F.B.I., the Federal Guard and the U.S. Marines, but the machine catches all the shells and bullets in mid air and neatly extracts the contents before they can explode. Finally, the Air Force, on advice from the scientist, drops a hydrogen bomb, which has as you know a dinky little ordinary atomic bomb inside, and that's that. Silhouetted against the mushroom cloud the hero clutches the heroine with one hand and burns the blueprints with the other and after a few further philosophic remarks, the picture

fades out in a final clinch and a lingering odour of hadibut. The audience is supposed to feel relieved and a little pleased with itself for having seen the danger quicker than that smart-alick scientist, but speaking personally, I'd rather have seen the bomb land on the hero, heroine, wise old father and dog. I preferred the can opener.

The "Youd" mentioned up there is of course old-time fan Sam Youd, better known nowadays as John (*Death of Grass*) Christopher. I hear that he's just made another big sale (*Caves*) to the movie industry, so big in fact that he's been forced to take the Coward's way out from income tax; like Noel, he can no longer afford to stay in England. I suppose this means another regular missing from the weekly gatherings of the London Circle of writers and fans, though for a happier reason. These weekly meetings used to take place in a pub called The White Horse, featured in the popular Arthur Clarke series of stories as *The White Hart*, but some while ago they followed their popular landlord to The Globe in Hatton Gardens. There, every Thursday night, people professionally or amateurly interested in science fiction meet informally to talk, as they've been doing so for many, many years. Newcomers are always welcome, but occasionally it has happened that they have gone away disgruntled because nobody spoke to them. The trouble was of course, that this is just an ordinary pub and there's no way for the London Circle members to tell science fiction readers from ordinary thirsty citizens.

# SCIENTIFILM PREVIEW



*News and Advance Film Reviews Direct from Hollywood's*

FORREST J. ACKERMAN

MISSILE TO THE MOON is an insult to human intelligence, the proportion of morons in any given movie theatre and the gibbering Gibbons of (without consulting my geography) Darkest Africa. Not since CAT-WOMEN OF THE MOON (recently re-released with the galling straight title of ROCKET TO THE MOON) has poor old Luna had it so bad. With great teams, in reality, struggling as I write and failing time and time again to get the first lunar probe to its target, we have this preposterously over-simplified picture of the backyard scientist (vintage 1929) who personally puts together a spaceship large enough to comfortably accommodate two inadvertent stowaways in addition to himself and his handy-picked crew of two. I say handy because they were a couple of juvenile delinquents freshly crashed out of Reform School who just happened to hide in the rocket and were given the choice of helping astrogate the ship in an emergency or be turned over to the authorities. So off shoots our ill-assorted group of five, in the very same stock-shot that got our ROCKET-SHIP X-M pioneers launched

about ten years ago; and when the scene is played in reverse, when landing on the Moon, there is (naturally) the same gantry waiting to receive Terra-rocket 1. Shades of Flash Gordon, there are huge stone-men (though less anthropomorphic than the man-size clay-men encountered by Flash in his serial heyday) who clumsily chase the inadequately space-suited terrestrials into a cave, where they realise atmosphere exists when they notice oil torches burning. Next thing we know (à la CAT-WOMEN, EL SEXO FUERTE, QUEEN OF THE UNIVERSE, etc.) we encounter the last remnants of a matriarchal society, these particular Lunar Amazons being winners of last year's international beauty contest (and what they ever did to be exiled to the Moon I'll never know). Well—is there really any use going on, yawn-yawn?

Warning: beware of MONSTER FROM MARS—it is just a retitling of the incredibly bad ROBOT MONSTER of yesteryear.

FRANKENSTEIN FROM SPACE may be the first Frankenstein in 3-D (a new process).

# 1958 AUTHOR'S AWARD

1958 was the first year in the history of our magazine in which we published twelve issues in as many months. During this time we printed no less than sixty-five stories by twenty-five authors and with such close competition for the Top Three placings it was quite impossible for any writer to gain a really high position in our Awards List unless he had at least six or seven of his stories printed during the year.

In view of this, the consistently satisfactory placings attained by many of our regular authors over the past several years is in itself a considerable vote of confidence for them. There must always be a favourite, however, and this year it is E. C. TUBB who heads the list. This is the fifth time—out of a possible six—that Mr. Tubb has achieved this very difficult feat and has, in so doing, proved beyond all doubt that he is one of the outstanding British science fiction writers of the moment. The proprietors of NEBULA are proud and happy to award this author a cheque for Twenty Pounds as the NEBULA Author's Award for 1958.

Second on the list comes KENNETH BULMER—the same position which he held on the previous occasion—and for this admirable consistency, as well as the sheer good quality of his writing—we are happy to present him with our principal consolation prize.

A really off-beat author who has already tasted the fruits of success to the full, comes third. BRIAN W. ALDISS has long been acclaimed as one of Britain's most original writers of science fiction, and we are most happy that his work is at last beginning to make an impact on the readers of our magazine.

What of the other writers who, principally by reason of having too few stories published during 1958—or of these stories being too short—find themselves a little farther down the list? PHILIP HIGH, ERIC FRANK RUSSELL, E. R. JAMES and ROBERT TILLEY (in that order) are all notable for a remarkable degree of success which stretches unbroken over the last couple of years, while ROBERT PRESSLIE and JOHN KIPPAX share the honour of having made a startling improvement in their respective positions, as compared with those which they held in our 1957 list.

ROBERT SILVERBERG is our top American author, and scores a considerable personal triumph by reaching sixth position on our list with only four stories to his credit during the specified period. Among our more successful new discoveries were W. T. WEBB, MARK PATRICK and JAMES INGLIS, who are looking to 1959 as another step towards "stardom".

In fairness to all concerned, we should perhaps point out that the relative placings mentioned above are in no way intended to be an accurate indication of the popularity of the various authors concerned in the science fiction world as a whole. The figures referred to are based solely on the reactions of NEBULA readers—as expressed through our monthly Guinea Prize Polls—to the various stories published in the magazine during 1958.

We should like to thank everyone who has helped in any way to make this year's Award presentation so successful. We look forward with interest to your comments and preferences on the stories we publish during 1959.

# GUIDED MISSIVES

LETTERS TO  
THE EDITOR

Dear Editor,

I would like to disagree most heartily with G. A. Cooper of Derby, who in a recent issue's "Guided Missives" makes a statement to the effect that there should be more realism in science fiction.

Personally I disagree completely with this opinion. I feel that since space travel is fast becoming a fact, and the nearby planets household names, it is time for the science fiction writers to "move farther out". Science fiction, like most other popular forms of literature, is basically escapist in nature. It will fail in its purpose if the authors merely try to compete with the current news.

By all means let us have logical backgrounds for our science fiction (whether they be set on Tyrann or Earth), but the emphasis should be on *imagination*, not realism. That old bone of contention "what will happen to science fiction when we get into space" has often been gnawed upon by the fans, but it is my personal opinion that now that this is happening, science fiction must keep ahead of fact and not try to compete with it. Otherwise, the non-science fiction reader will be heard to remark: "Science fiction? Old hat."

ERIC BENTCLIFFE,

Stockport,  
Cheshire.

\* *A very interesting point, Eric, which I am sure our authors will take seriously to heart.*

*The really important thing, to my way of thinking, is that although science fiction will definitely have to develop and change as time (and scientific progress!) catches up with it, this type of writing will continue to be enjoyed by all those who wish to speculate on and, incidentally, contribute to, the future of the human race.*

Dear Mr. Hamilton,

Why does everyone in your stories lead such unnaturally moral lives?

J. CURZON,  
Marlborough,  
Wilts.

\* *Presumably because in the societies of the future which our authors describe, the average human being will be a little further removed, morally as well as intellectually, from the animals which were our progenitors.*

Dear Mr. Hamilton,

Will you please accept my heartiest congratulations on getting Arthur Thomson to produce his hilarious new "Bem" series for you?

This is without doubt the best humorous cartoon series in any science fiction magazine in the



world. I am looking forward with even more impatience than usual to my monthly NEBULA now that you have added yet another inimitable "extra" to your regular contents list.

G. B. LEITCH,  
New York, 15,  
U.S.A.

*\* Thanks for the kind words, Mr. Leitch. I have just received another batch of "Bem" cartoons from "Atom", and can assure you that this series promises to become even funnier as time goes on.*

Dear Editor,

What will be the outcome of the Russian attack on space? My bet is that the first man round the Moon will be a Russian. If the Americans don't buck up, they are in for a big surprise when they eventually start to get rockets anywhere near the Moon.

ALAN RISPIN,  
Higher Irlam,  
Manchester.

*\* True enough, Alan, but we should not forget that if the U.S.S.R. were to occupy the Moon effectively, it is almost certain that the whole of the satellite would be denied to the Western Powers for all but the very most limited kind of exploration. The Moon is an important strategic prize, not only in relation to the balance of power on Earth, but also as a jumping board to the nearer planets. It could only be the cause of the very greatest international tension if either of Earth's power blocs was to gain control of it to the complete exclusion of the other.*

## ONE GUINEA PRIZE

To the reader whose Ballot Form (below) is first opened at the NEBULA publishing office.

All you have to do, both to win this attractive prize and to help your favourite author win the 1959 Author's Award, is to number the stories in this issue in the order of your preference on the Ballot Form below, or on a postcard if preferred, and mail it immediately to NEBULA, 101 Greenhead Street, Glasgow, S.E.

To See Ourselves	
The Strangers	
Viewpoint	
The Colonel's Last Safari	
Imbalance	

Name and address :

Mr. G. C. Black of Bodmin in Cornwall wins the One Guinea Prize offered in Nebula No. 37. The final result of the poll on the stories in that issue was

- |                          |       |
|--------------------------|-------|
| 1. LORDS OF CREATION     | 20.9% |
| By Philip E. High        |       |
| 2. THE TRUTH             | 19.6% |
| By E. R. James           |       |
| 2. PARIAH                | 19.6% |
| By Robert Presslie       |       |
| 4. THY ROD AND THY STAFF |       |
| By John Kippax           | 18.4% |
| 5. HOUSE DIVIDED         | 11.9% |
| By Robert Silverberg     |       |
| 6. ILFILTRATION          | 9.6%  |
| By Mark Patrick          |       |

The result of the poll on the stories in this issue will appear in Nebula No. 43.

Dear Sir—Is it your policy in NEBULA to publish letters from your authors, and other well-known contributors?

IAN SMALL,  
Helensburgh,  
Scotland.

- \* Not unless they have something exceptionally important to say, Ian. After all this is the only section of the magazine in which readers get the complete freedom to say what they like. Everything else is written by our authors.

### QUESTION SPOT

*A department in which scientific questions from our readers are answered by one of our Photo Feature team of experts.*

Dear Sir,

I once read in a time travel story that there is evidence of a number of what are generally accepted as being more or less modern scientific discoveries (e.g. the steam engine) also being in use in very ancient times.

Are there many proven examples of this kind of thing, and do they in any way indicate a likelihood of time travel?

J. D. STOKES,  
Ormskirk,  
Lancs.

Dr. Archie Roy says: Certainly a steam engine was in being 2,000 years ago, invented by Hero of Alexandria, though never regarded as more than a toy. In addition, one thinks of Daedalus the Athenian who planned and executed the labyrinth for the King of Crete, who is reported to have constructed moving statues and who flew with

the aid of "cunningly fashioned" wings. There is also the ancient Chinese compass chariot whose arm, without the aid of magnetism, always pointed in the one direction no matter the route taken by the chariot. This was achieved by sets of gear-wheels ingeniously interlocked with the chariot wheels.

It may be that it is to those mild reflections of modern technology the story writer was referring but none of them—at least the authenticated ones—is completely alien to the culture in which it appeared. At the same time we are apt to think that a modern man, set down by time travel in past ages, could overturn the culture of those ages—granted the language barrier was overcome—by "inventing" many of the machines with which he is familiar, but on further reflection, two major barriers would probably remain insuperable to our time-traveller. These are the lack of machine tools and his sheer ignorance of modern technological processes, an ignorance that is part and parcel of the specialisation of our times. For example how far would a photographer get if set down in Socrates's Greece, or a chemist stranded in ancient Crete? Try it yourself! Sit down, make a short list of what you know—repeat know!—that would be of use to you in lighting a beacon of knowledge that would be seen over the centuries as the work of a modern man stranded there.

It turns out to be difficult, doesn't it, and shows that any "inventions" made would have to fit the culture in which one landed and therefore would not seem alien to it.

*Continued from inside front cover*

But do galaxies themselves form part of some super-system, some super-galaxy that has star groupings in place of stars? And may not such super-galaxies be only minute fragments of super-super-galaxies, and so on and so on, *ad infinitum*?

Any analysis of the distribution of galaxies shows that many—some astronomers say most—galaxies are part of small groups. Our photographs this month show four galaxies in such a group, and an enlargement of one of the smaller galaxies of this group.

The four are all five million light years from Earth. The central galaxy is Messier 81, the most perfectly shaped galaxy ever seen in detail. It is beautifully elliptical with a most distinct nucleus and well developed spiral arms. The other three galaxies are smaller, but the whole four make up a system which rotates in the same manner as a multiple star system. The small galaxy in the upper left hand corner of the photograph, very much enlarged in the second photograph, is NGC 2796.

It is a dwarf stellar system showing none of the fine spiral structure of Messier 81.

One theory was that this grouping, plus our own galaxy, plus tens of thousands of others, formed a lens-shaped super-galaxy 40 million light years across and only a couple of million thick. Its centre was fixed 15 million light years distant, so that we would be on its rim, just as our Sun is near the rim of our galaxy. This grouping has recently been confirmed, to some extent, by radio astronomical data in which density of radio noise is plotted across the sky, and by measurement of movements of a hundred of these galaxies. These tend to show that the whole super-galaxy is rotating.

Could those savants of five hundred years ago have accepted and thought about this, the question they would have asked is very probably the one that modern astronomers are calling in computers to answer. Is there any overriding order in the distribution of galaxies, such order as, for example, exists in the distribution of layers of hot gases, or is the whole sprawling complex purely haphazard in design?

It is possible to build up a synthetic picture of the visible cosmos solely by using a chance mechanism. In essence, this consists of using packs of cards in which the total number of cards and the number of aces can be altered to give any desired set-up.

Consider a cube made up of a million tiny cubes, one hundred to a side, each one of which could contain a galaxy.

Pick one card from one pack and then replace it. If the card is an ace, mark a galaxy in the first cube, and move on to the next and repeat the process. If the card is not an ace, replace it and leave the cube as intergalactic space. In no way does this method reproduce the distribution of galaxies in space.

Now—complicate the picture by assuming that galaxies occur in clusters and that clusters themselves occur in clusters.

Use one pack of cards, employing the above procedure, to determine whether or not each cube contains the centre of a galactic cluster. Then decide the number of galaxies in each cluster by using another pack of cards, counting through the pack until the ace comes up. The distance apart of the galaxies in each cluster is then found by using a third pack of cards. More packs of cards may be brought into use to determine the clustering of clusters.

Astronomers do this, although to imagine staid observatories cluttered with piles of playing cards overflowing every room is an intriguing but false picture. Large computers are employed, which automatically select at random and they also have means by which the ratio of ordinary cards to aces can be quickly changed. This saves an awful lot of card drawing and shuffling—card sharps are not as yet required in the astronomical profession.

The galactic maps built up from the resulting data are fantastically similar to those obtained directly from photographs.



Another scan  
by  
cape1736

